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## **Residential segregation of immigrants: Patterns, drivers, effects and policy responses**

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In all OECD countries, immigrants are concentrated in certain areas, especially in the poorer neighbourhoods and outskirts of the large metropolitan cities. However, not all immigrant groups tend to concentrate to the same extent, and concentration is shaped by both geography and historical settlement patterns. The effects of this concentration on integration are complex. On the one hand, arrival in an area with high concentration is often associated with better initial employment prospects for immigrants. On the other hand, in the longer run, immigrant concentration tends to hamper host-country language acquisition and, in many cases, educational advancement for children of immigrants. Policies should thus not primarily focus on preventing migrant residential segregation, but rather on enhancing mobility out of those areas. More attention should be given notably to the quality and accessibility of housing for immigrants.<sup>1</sup>

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# In Brief

## Key findings

- **The issue of residential concentration of immigrants is of high policy interest because of the impact that it can have on immigrants' integration and social cohesion at large.** Especially in European OECD countries, high concentration of immigrants is widely considered to be a bane for integration.
- **High concentration of immigrants is ubiquitous across the OECD.** In most OECD countries, the share of immigrants in the population is higher in urban areas than in rural areas, in areas with high population density and in large metropolitan areas as compared with smaller cities. Within cities, immigrants tend to be overrepresented in poorer neighbourhoods and at the outskirts. Housing in areas with residential segregation tends to be in poorer condition, and the local environment is much more frequently characterised by higher levels of violence, pollution and noise.
- While it is difficult to compare levels of residential concentration of immigrants across countries due to lack of comparable data and relevant spatial delimitations, **the available evidence does not point to an overall increase in levels of immigrant concentration at regional level.** If anything, evidence from a number of OECD countries suggests that new arrivals are now more dispersed at this level than previously. This holds for example for States in the United States and for capital city regions (as compared with the remainder of the country) in Europe.
- However, this trend of greater dispersal may not hold at the neighbourhood level. The concentration of immigrant children in schools since 2006 has increased twice as much in schools that were already at the highest quartile of immigrant concentration than at the average school.
- **Not all immigrant groups tend to concentrate to the same extent.** In European countries, non-EU immigrants are significantly more concentrated than EU immigrants. There is also some evidence of higher concentration of refugees compared with other migrant groups at the neighbourhood level, in spite of dispersal policies that are in place in many countries.
- In Canada, more than two-thirds of all immigrants from Asia living in cities in 2016 resided in the three largest cities, while this was the case for only 55% of immigrants from Europe. In the United States, in 2018, 35% of Latin American immigrants living in metro areas resided in New York, Los Angeles or Miami (the three cities with the largest shares of immigrants), which hosted a bit more than one-quarter of Asian or European immigrants.
- **Geography and historical settlement patterns matter in explaining the spatial distribution of immigrants.** Both population density and city size are generally associated with a larger immigrant presence. In a number of OECD countries, larger shares of immigrants are observed in border regions, notably due to the proximity to origin countries. When deciding on where to live in their destination country, immigrants tend to favour areas where there is already a significant presence of immigrants from their region or country of birth.
- **Recently arrived immigrants are more likely to change location than those who have lived longer in the host country.** Mobility is also more pronounced among better-off immigrant households. When they move, immigrants who used to live in areas with a high share of

immigrants from their region of origin tend to choose areas where it is lower, especially immigrants with more favourable socio-economic characteristics.

- **Outmigration of non-migrants also shapes immigrants' concentration patterns.** Immigrant concentration tends to be enhanced further by native-born leaving immigrant-dense areas. Outmigration thereby tends to lower the average socio-economic position of the population in areas with high immigrant concentration.
- **The effects of immigrant concentration on integration are complex.** On the one hand, arrival in an area with high concentration is often associated with better initial employment prospects. For example, in the United States, a 10% increase in own-group share locally is associated with a 1.4 percentage point increase in the employment probability for newly arrived immigrants. On the other hand, immigrant concentration also appears to hamper host-country language acquisition and, in many cases, educational advancement for children of immigrants.
- There is also some evidence, notably from Sweden, that **residential segregation is more likely to be associated with a negative effect on women than on men**, notably with respect to language acquisition.
- **In most European OECD countries, concentration of children of immigrants in schools is associated with a penalty in terms of educational outcomes.** This penalty extends to more than a year of schooling in countries such as Austria, Belgium, France, Germany, Greece, the Netherlands, and Sweden. There also tends to be a penalty for children of native-born in such schools, but it is much lower.
- **This penalty is largely explained by the lower socio-economic status of parents in schools with high concentration of migrant children.** Accounting for the higher share of low-educated mothers of children in these schools explains a significant part of the disadvantage in most countries. What is more, in schools with high concentration of migrant children, a higher proportion than elsewhere do not speak the host-country language at home and with classmates. As the composition of schools tends to reflect the composition of the neighbourhood, these latter findings also suggests that immigrants in highly concentrated areas are less likely to speak the host-country language.
- **Native-born descendants of immigrants living in segregated neighbourhoods also tend to have lower educational attainment levels.** To which degree this disadvantage impacts labour market integration later on has not been the object of systematic study to date. However, evidence from Sweden indicates that, once this education disadvantage is accounted for, no further disadvantage is observed in the labour market.
- **Prevention of the concentration of immigrants or of its negative long-term consequences has been an area of particular attention by policy making in OECD countries.** Given the strong links between migrant concentration and lower educational outcomes, education policy has been subject to particular attention. About two-thirds of OECD countries have systematic support for schools with high concentration of disadvantaged children, and nine countries (Canada, the Czech Republic, France, Ireland, Luxembourg, New Zealand, Portugal, Slovenia and Switzerland) factor in the share of migrants. Belgium Flanders and Italy have specific maximum thresholds, while Sweden allows under certain conditions for a prioritisation of migrant students in oversubscribed schools.
- **Both housing and urban regeneration policies can affect neighbourhood composition and therefore migrant concentration.** Many of these policies also aim at achieving a greater mix with respect to socio-economic background and parental origin. Such policies generally aim at achieving a greater socio-economic mix of neighbourhoods, and migrant background is rarely an explicit factor.

- A number of OECD countries have specific urban regeneration programmes that try to address the issue of high concentration of disadvantage in certain urban areas. **Urban regeneration policies are longstanding in the Nordic countries – where they are linked with specific anti-segregation action plans – and in the Netherlands**, but have also been pursued elsewhere. Only Denmark has a specific focus on reducing the population share of immigrants in areas of high concentration through a number of measures, including restrictions on inward mobility.
- **Migration policy parameters can also affect migrant concentration.** This is most common with respect to asylum seekers, who are dispersed in about half of all OECD countries, and refugees. Australia, Canada and New Zealand have specific provisions to favour economic migration outside of the metropolitan areas. Denmark is the only OECD country that restricts, under certain conditions, family migration to areas with high shares of immigrants.
- Overall, it appears that, in many cases, there is a trade-off for immigrants living in segregated areas. This provides short-term gains for new arrivals, while it can hamper integration in the long run. It therefore appears that **policies should not primarily focus on preventing migrant residential segregation, but rather on enhancing mobility out of those areas.**
- **More attention should be given notably to the quality and accessibility of housing for immigrants.** More targeted investment in these areas into language training and information about the functioning of the host-country labour market and education system, notably for new arrivals, also seem warranted. Greater policy attention is required especially with respect to immigrant women's integration in areas with high residential segregation. Both research and integration policy also need to pay more attention to the spatial aspects of intergenerational dynamics.

## Introduction

It is a well-established fact that immigrants are not equally distributed within OECD countries and tend to be concentrated in certain areas, especially within large cities (OECD, 2016<sup>[1]</sup>). Immigrants' neighbourhood shapes their opportunities to make contacts, to learn the host-country language, and to access resources such as housing, schools, potential employers, transportation nodes and the like. The local neighbourhood can provide new opportunities but it can also constrain integration outcomes. This concerns the situation of immigrants just after their arrival but also their future integration prospects and those of their descendants. As residential segregation tends to be associated with fewer contacts with the host-country society and norms, its impact on social integration and social cohesion at large has also become an issue of scrutiny.

Indeed, high concentration of immigrants is widely considered to be a bane for integration. A 2017 survey revealed that EU-wide, more than half of EU citizens consider limited interactions between immigrants and the native-born to be a "major obstacle" for integration; and more than 80% considered that a "better intermingling" between immigrants and native-born would improve integration (European Commission, 2018<sup>[2]</sup>).

More recently, in the context of the COVID-19 pandemic, many OECD countries have observed higher health vulnerability for migrants, witnessed both with respect to a higher likelihood of infection and higher probability of severe cases (OECD, 2020<sup>[3]</sup>). Detailed analyses accounting for individual contextual factors have concluded that part of this disadvantage is associated with high spatial concentration of certain immigrant groups, even after accounting for housing conditions and other socio-economic factors.

What are the driving factors of immigrant spatial concentration? What is the impact of this concentration on integration outcomes? How can policy affect migrant concentration and its association with integration outcomes? To address these questions, this chapter reviews the patterns of immigrant concentration across regions, cities, and neighbourhoods in OECD countries, and analyses some of the key determinants of immigrants' location choices on the basis of both a comprehensive review of the literature and novel data analysis. It also analyses the consequences of immigrant concentration and residential segregation on integration outcomes and prospects, as well as public policies implemented in OECD countries to tackle this issue – building on a policy questionnaire that was sent to all OECD countries.

It is structured as follows. Section 2 describes past and current patterns of immigrant spatial concentration in OECD countries, at different geographical scales, including the question of residential segregation within cities. Section 3 looks at the determinants of immigrants' location choices and mobility patterns. Section 4 investigates the consequences of immigrant concentration on immigrant integration. Section 5 discusses the role of public policies in driving and responding to residential segregation. Section 6 concludes with some lessons for policy making.

### **Box 5.1. Definitions and concepts used in this chapter**

In the literature, both the terms concentration and residential segregation are used. There is no clear-cut distinction between the two, although the latter term is more often used to describe the dynamics and the concentration at neighbourhood level, while the former tends to refer to larger areas. This chapter will use both terms synonymously.

A key issue that arises in the study of immigrants' residential segregation is its interlinkage with ethnic segregation, which is used in the literature when referring to immigrants from specific origin countries or regions and their descendants. As immigrant populations become longstanding, the number of native-born descendants of immigrants – both direct and multi-generation – increases. To the degree that they live in the same neighbourhoods, looking at the share of immigrants will thus tend to provide a distorted picture if the actual issue of interest is ethnic segregation. This is a particular issue when considering changes over time. Indeed, it is conceivable that immigrant segregation – as measured by the share of foreign-born – declines while it increases once their descendants are considered. However, apart from the Nordic countries with their longstanding population registers, there is little data on residential concentration at the local level that would include both immigrant and their native-born descendants. This chapter focuses on immigrants and their direct descendants. Where the latter are included, this is specifically mentioned. The word “ethnic” segregation is used in this chapter when not only direct descendants are considered but also subsequent generations.

In addition, there are links between the residential segregation of immigrants and broader patterns of socio-economic residential segregation: to the extent that immigrants are overrepresented among the population with socio-economic disadvantage, they will tend to live in neighbourhoods where housing is cheaper, or with a higher share of social housing.

Finally, much of the literature on residential segregation, especially from the Anglo-Saxon countries, does not focus on immigrants and their descendants, but on racial segregation. While some of the issues are similar, this issue is not considered in this chapter which focuses on foreign-born and their direct descendants.

## Patterns of immigrant concentration

This section first focuses on the regional distribution and then zooms in at the city level to discuss concentration across neighbourhoods. Both historical and contemporary patterns are discussed, bearing in mind that differences in data availability across countries, as well as country-specific geo-administrative divisions, may limit international comparability.

### ***Immigrant concentration at the regional level and across cities***

#### *Historical concentration patterns*

Across most OECD countries, the share of immigrants in the population tends to be higher in urban areas than in rural areas, in denser regions and in large cities. This fact has already been highlighted half a century ago in the early empirical analyses of settlement patterns of late 19<sup>th</sup> century European immigrants in the United States. Incentivised by better employment opportunities and the presence of persons from the same origin country, new immigrants tended to settle in states with a higher share of urban population and a higher population density (Gallaway and Vedder, 1971<sup>[4]</sup>; Gallaway, Vedder and Shukla, 1974<sup>[5]</sup>). This phenomenon was also observed in several European countries. As noted by Noiriel (1988<sup>[6]</sup>) for France, immigrants already tended to concentrate in the largest industrial cities at the end of the 19<sup>th</sup> century. In the United Kingdom, London has been the main pole of attraction of immigrants: in 1881, it hosted almost one-quarter of all immigrants living in England and Wales, while accounting for a population share of 15% (Minnesota Population Center, 2020<sup>[7]</sup>). In the early 20<sup>th</sup> century, in Canada, England, Sweden and the United States, data show that immigrants were systematically more regionally concentrated than the native-born, and they lived more often in cities (Annex Table 5.A.1).

Location patterns of immigrants across regions and cities in the second half of the 20<sup>th</sup> century also exhibited significant concentration. This was for instance the case in the United States across metropolitan areas (Bartel, 1989<sup>[8]</sup>) and across states (Chiswick and Miller, 2004<sup>[9]</sup>). As documented in Box 5.2, this trend continues until now.

European countries have also exhibited a strong spatial concentration of immigrants for decades, with a prominent role of capital cities. In Great Britain, France, Spain and Sweden, the population share of capital regions has remained consistently higher for immigrants than for the native-born since the 1960s (Figure 5.2). In Great Britain, between 1971 and 2020, between 35% and 40% of the immigrant population lived in Greater London, while this was the case for about 10% of the native-born. For France, the pattern was quite similar, although the difference between the foreign-born and the native-born was smaller. The share of the foreign-born living in the Ile-de-France region (which includes Paris and its suburbs) increased from about 25% in 1962 to about 35% in 2017, while the share of all native-born living in this region remained close to 17%. In Spain, the Madrid region was home to close to 19% of immigrants in 1960, compared to 8% of the native-born. This gap almost disappeared in the 1990s before widening again: in 2001, 21% of immigrants lived in the Community of Madrid, down to 19% in 2020. In the case of Sweden, in 2020, about 30% of all immigrants lived in Stockholm County, while this was the case for about 20% of the native-born, this difference having been substantially larger in the past.

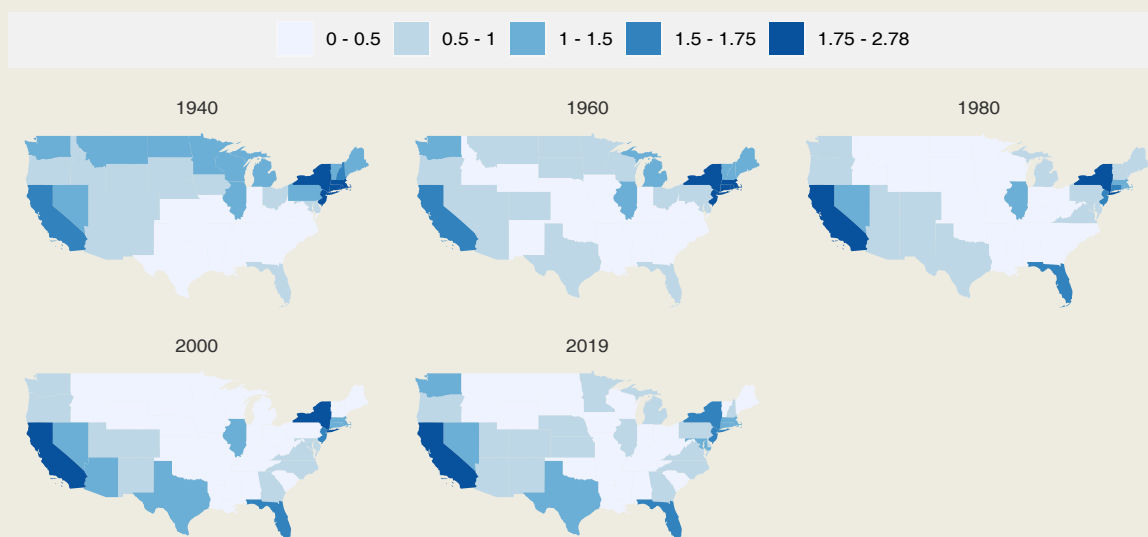
### Box 5.2. The regional distribution of immigrants in the United States since 1940

The geographical distribution of immigrants in the United States has undergone a significant shift since the mid-20<sup>th</sup> century (Figure 5.1). In 1940, immigrants were most strongly overrepresented in the Northeast region. At that date, almost one-in-four immigrants in the United States lived in New York State, and 23% of the population of this state was foreign-born, compared to about 10% countrywide. In 1960, while the foreign-born share in the United States was only 6%, close to its lowest point in the 20<sup>th</sup> century, immigrants were even more concentrated in New York, with 26% of them living in the state.

A major change occurred after the 1970s, when immigration started to increase again, especially from East and Southeast Asia and from Mexico. By 1980, 16% of the population of California was foreign-born, almost the same share as in New York State. Taken together, these two states hosted 42% of the immigrant population of the country, compared with 18% of the total population. However, California was home to 57% of the Mexican immigrants and one-third of all Asian immigrants, while New York State hosted only 0.5% and 11% of the Mexican and Asian immigrants, respectively. In 2000, the share of foreign-born in California had reached 27% and there were more than twice as many immigrants in California as in New York State, while the opposite was true in 1960.

In the last two decades, there has been some regional deconcentration: the relative shares of California and New York State have decreased significantly, while the number of immigrants has increased more rapidly in states with traditionally low immigrant shares, such as Kentucky, Tennessee or Iowa.

Figure 5.1. Location quotients of immigrants across US states, 1940-2019



Note: Data for the contiguous the United States. The location quotient of immigrants for state  $i$  is computed as  $LQ_i = (FB_i / P_i) / (FB_T / P_T)$ , with immigrant and total populations noted  $FB$  and  $P$  respectively, and indices  $i$  and  $T$  referring to state  $i$  and the whole country respectively. The location quotient is lower than 1 when the local/state share of immigrants is lower than their share in the country as a whole, and higher than 1 when state  $i$  has a higher share of foreign-born than the country overall.


Source: United States census data for 1940, 1960, 1980 and 2000; American Community Survey for 2019; Ruggles et al. (2021<sup>[10]</sup>), "IPUMS USA: Version 11.0 [dataset]", <http://dx.doi.org/10.18128/D010.V11.0>, and OECD Secretariat calculations.

**Figure 5.2. Share of immigrants and native-born living in the capital region in the United Kingdom, France, Spain and Sweden, 1960-2020**



Note: In 1971, about 36% of all the foreign-born in Great Britain lived in London, while this was the case for about 12% of the native-born. United Kingdom: data only cover Great Britain; Greater London is defined as the 32 London boroughs and the City of London. France: the Ile de France region is centred around Paris and encompasses 8 French departments. Spain: data for the Madrid province from 1960 to 1981 and for the Community of Madrid since 1991. Sweden: data relate to nationality for 1973-2019; dashed lines: data relate to place of birth (foreigners vs native-born) for 2000-20; Stockholm County corresponds to the City of Stockholm.

Source: United Kingdom: census data, Office for National Statistics (ONS); France: census data, National Institute of Statistics and Economic Studies (INSEE) and Minnesota Population Center (2020<sup>[7]</sup>), "Integrated Public Use Microdata Series, International: Version 7.3", <http://dx.doi.org/10.18128/D020.V7.3>; Spain: census data, National Statistics Institute (INE); Sweden: register data, Statistics Sweden (SCB); OECD Secretariat calculations.

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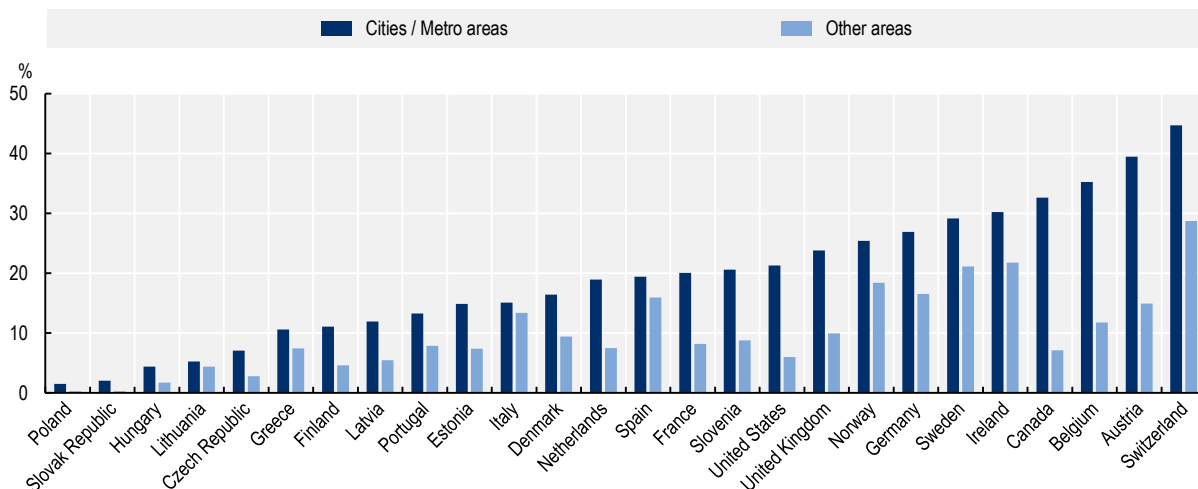
### Current patterns

Historical patterns described above still characterise very well the current situation observed in different parts of the OECD. The median share of immigrants in the working-age population in rural areas across 25 European OECD countries in 2019 was about 7%, while it was 18% in cities. This higher urban share is observed in all European OECD countries, irrespective of the overall share of immigrants in their population. In Canada and the United States, the share of immigrants was also higher in metropolitan areas than in the rest of the country (Figure 5.3). The difference between urban and rural areas is much



smaller in those European countries where immigration is relatively recent and driven by labour needs prior to the global economic crisis of 2008, such as Greece, Ireland, Italy, Portugal and Spain. It is also smaller in Denmark, Norway, and Sweden, where immigration is more longstanding but which have relatively high shares of humanitarian migrants who are dispersed throughout the country. All three of these latter countries also have relatively strong policies to prevent migrant concentration (see below the discussion on policies).

**Figure 5.3. Share of foreign-born in the working-age population (15-64) according to the degree of urbanisation in selected OECD countries, 2019**



Note: Population aged 15-64. For European countries, the share of foreign-born is shown according to categories of degree of urbanisation: cities and other areas (towns and suburbs and rural areas). The degree of urbanisation is a joint European Commission / OECD classification. Local Administrative Units (LAU) are classified as cities, towns and suburbs or rural areas based on a combination of criteria of geographical contiguity and minimum population threshold applied to 1 km<sup>2</sup> population grid cells. Cities are LAUs where at least 50% of the population lives in urban centres. For Canada, the share of foreign-born is shown for Census Metropolitan Areas (CMAs) and for the rest of the country. Data for Canada refer to 2016. For the United States, the share of foreign-born is shown for Metropolitan Statistical Areas (MSAs) and for the rest of the country.

Source: European countries: Eurostat, Canada: Statcan, the United States: Census Bureau; OECD Secretariat calculations.

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In addition, there is generally a positive correlation between city population and the local share of immigrants, which is often driven by the higher share of immigrants in the capital or largest city. This is true in most European OECD countries, although with some heterogeneity (Table 5.1). For example, the share of foreign-born in the largest urban area in France, Paris, was close to 22% in 2014, while it was 11% in all other French urban areas combined. In Spain, the two largest cities, Madrid and Barcelona, had a share of immigrants of 19% each in 2019, while immigrants accounted for 12% of the population in the other cities combined. In Sweden, however, the difference was less stark between the largest city, Stockholm (25% of immigrants in 2018) and the other urban areas of the country (20% of immigrants). In countries where the overall share of immigrants is smaller, their spatial concentration in the largest city can also be significant. This is for example the case in Finland, where 12% of the population of Helsinki was foreign-born in 2019, compared with only 5% on average in the other cities. In the Belgian case, a recent government report highlighted that the share of foreign nationals varied drastically across the main cities: it was 40% in Brussels and 25% in Antwerp, the two largest cities, but only 7% in Bruges and 10% in Namur (SPF Emploi and Unia, 2020<sup>[11]</sup>). Germany stands out as an exception to this pattern: for historical reasons, most large West-German cities have a higher share of immigrants than Berlin; in 2019, 35% of Frankfurt's population was foreign-born, while this share was 22% in Berlin.

**Table 5.1. Share of foreign-born according to geographical classification in selected OECD countries**

	Capital or largest city		Other cities		Other areas	Total
Australia, 2016	Sydney	35.2%	Other capital cities (7)	29.6%	13.3%	25.4%
Belgium, 2019	Brussels	28.6%	Other FUAs (10)	15.7%	11.9%	17.2%
Canada, 2016	Toronto metro area	49.0%	Other CMAs (34)	24.6%	7.6%	23.9%
Chile, 2017	Santiago Province	8.3%	Largest cities at Northern border	10.7%	2.3%	4.5%
Colombia, 2020	Bogota	5.4%	Largest cities at border with Venezuela	13.0%	4.5%	4.9%
Finland, 2019	Helsinki	12.4%	Other FUAs (6)	5.4%	4.4%	6.8%
France, 2014	Paris	21.5%	Other FUAs (83)	10.6%	7.6%	11.7%
Germany, 2019	Berlin	22.0%	Other large cities (14)	23.9%	15.3%	17.0%
Japan, 2018	Tokyo Metropolis	4.0%	Capitals of other prefectures	2.1%	1.8%	2.1%
Korea, 2015	Seoul Capital Area	3.6%	Other cities and province capitals	1.4%	2.3%	2.7%
Mexico, 2020	Mexico City	1.1%	Largest cities at Northern border	2.9%	0.8%	1.0%
Netherlands, 2019	Amsterdam	19.8%	Other FUAs (35)	13.4%	7.2%	13.3%
New Zealand, 2018	Auckland	42.4%	Other major urban areas (6)	26.4%	27.3%	27.1%
Spain, 2019	Madrid	19.3%	Other FUAs (72)	13.7%	11.7%	13.9%
Sweden, 2019	Stockholm	24.8%	Other FUAs (11)	19.8%	14.5%	18.5%
United States, 2018	NYC-Newark-Jersey City	28.8%	Other MSAs (389)	13.9%	4.0%	13.5%

Note: European countries data for the capital city relate to the functional urban area (FUA). Australia: Greater Capital City Statistical Areas (GCCSA) are geographical areas built from Statistical Areas Level 4 and are designed to represent the functional extent of each of the eight State and Territory capital cities. Canada: Census metropolitan areas (CMA) are formed by one or more adjacent municipalities centred on a population centre (core). A CMA must have a total population of at least 100 000 of which 50 000 or more must live in the core. New Zealand: Besides Auckland, the other major urban areas are Christchurch, Wellington, Hamilton, Tauranga, Lower Hutt and Dunedin. United States: Metropolitan Statistical Areas (MSA) are defined as one or more adjacent counties or county equivalents that have at least one urban core area of at least 50 000 population, plus adjacent territory that has a high degree of social and economic integration with the core as measured by commuting ties. Japan: Data on nationals and foreigners from registers of the resident population; Tokyo Metropolis refers to the 62 municipalities of the whole metropolitan prefecture of Tokyo. Korea: Data on foreign and total residents by municipality; Seoul Capital Area refers to the whole metropolitan area, including the cities of Seoul and Incheon and Gyeonggi Province. Colombia: Cucuta, Riohacha and Valledupar are the capitals of the three densest departments bordering Venezuela (La Guajira, Norte de Santander, Cesar). Chile: Santiago Province is the province of the capital; Arica, Iquique and Antofagasta are the capitals of the three northernmost regions of the country (Arica and Parinacota, Tarapacá, Antofagasta). Mexico: Mexico City refers to the federal entity Ciudad de México; the largest cities of the Northern border states are Tijuana (Baja California), Hermosillo (Sonora), Juarez (Chihuahua), Saltillo (Coahuila), Monterrey (Nuevo León) and Reynosa (Tamaulipas). Source: European countries: Eurostat, Destatis (for Germany); Australia: Australian Bureau of Statistics (Census 2016); Canada: Statistics Canada (Census 2016); New Zealand: NZ Stat (Census 2018); United States: Census Bureau (American Community Survey 2018, 5-Year estimates); Japan: Portal of Official Statistics of Japan (System of Social and Demographic Statistics; Municipality data); Korea: Ministry of the Interior and Safety (Statistics on Foreign Residents by Local Government); Colombia: DANE; Chile: INE (Censo 2017); Mexico: INEGI (Censo 2020); OECD Secretariat calculations.

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A high concentration in the largest cities is also observed in Australia, Canada, New Zealand and the United States (Table 5.1). In Australia, in 2016, the share of immigrants in Sydney and in the other state capitals was more than twice as large as in the rest of the country.<sup>2</sup> The same pattern was observed in New Zealand, with 42% of immigrants in Auckland in 2018 and 26% in the other major urban areas. In Canada, the share of immigrants in the population reached 30% on average in metropolitan areas (CMAs) in 2016, while it was below 8% outside the largest cities. It was particularly high in Toronto (49%), the largest city, and Vancouver (45%), the third largest city. In the United States, in 2018, almost 15% of the population of metropolitan areas was foreign-born, while this share was only 4% in the rest of the country. The share of immigrants was particularly high in some of the largest metropolitan areas, such as New York-Newark-Jersey City (29%), Los Angeles-Long Beach-Anaheim (33%) – the two most populated metro

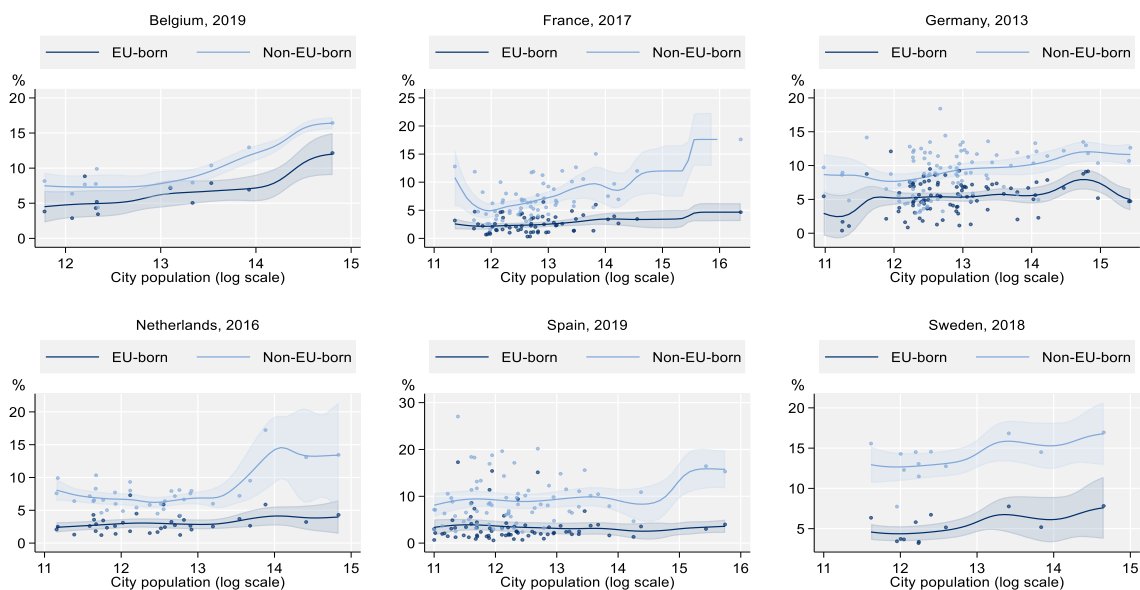
areas – and Miami-Fort Lauderdale-West Palm Beach (40%). Meanwhile, it was only 6.6% on average in metropolitan areas with a population of 75 000 to 500 000.

In OECD countries where the overall share of foreign-born or foreigners is much lower, there is also a significant concentration of immigrants in the largest cities (Table 5.1). This is for example the case in Japan: in Tokyo prefecture, the share of foreigners<sup>3</sup> in the population was 4% in 2018, while the overall share in Japan was 2.1%.<sup>4</sup> In Korea, in 2015, more than 65% of all foreigners lived in the Seoul Capital Area, which accounted for half of the country's total population, with foreigners accounting for 3.6% and 2.7% of the population, respectively. However, the share of foreigners in large cities outside the capital, such as Busan and Daegu, and in the other provincial capitals, was below average.

In Latin America, immigrants are often concentrated in the border cities (Table 5.1). In Chile, while the share of foreign-born in the population at the national level was 4.5% in 2017, it reached 8.3% in the Province of Santiago, the capital. It was even higher in the capitals of the three Northern regions of Arica and Parinacota, Tarapacá, Antofagasta, which have borders with Peru and Bolivia. These data, however, do not fully account for Venezuelan refugees who have arrived in Chile in the recent years. In 2019, the number of Venezuelan nationals living in Chile increased by more than 160 000, and more than half of the newly-arrived Venezuelans lived in the Santiago metropolitan area, significantly affecting the overall distribution of immigrants in the country. A similar pattern is observed in Colombia: while the share of immigrants in Bogota was about 5% in 2020, it was 13% in the largest cities close to the Venezuelan border. In Mexico, in 2020, one-quarter of all foreign-born lived in Mexico City or in the largest city of each of the six states along the border with the United States, while those seven cities together hosted 13% of the total population.<sup>5</sup>

There are notable differences in the relationship between immigrant share and city population according to the place of birth of immigrants. This is apparent for European countries from Figure 5.4 and the results in Annex Table 5.A.2: the correlation between city population and the share of immigrants is weaker for EU-born immigrants than for non-EU-born ones. An uneven concentration pattern across migrant groups is also observed for Canada (Figure 5.5) and the United States (Figure 5.6). For immigrants born in North America (i.e. mostly those born in the United States for Canada, and those born in Canada for the United States), there is basically no correlation between their share in the total population and the size of cities. In Canada, there is a strong positive correlation for immigrants born in Asia. In fact, more than two-thirds of all Asian immigrants living in Canadian cities in 2016 resided in the three largest cities: Toronto (42%), Vancouver (19%) and Montréal (7%). By contrast, these three cities hosted 55% of immigrants born in Europe and only 43% of those born in North America, which is close to the share of these cities in the overall urban population of Canada. In the United States, there is a particularly strong correlation between city size and the share of immigrants born in South and Central America and the Caribbean. Close to 35% of immigrants born in this region and living in metro areas lived in the three cities hosting the largest number of immigrants in 2018 (New York Metro Area, Los Angeles Metro Area and Miami Metro Area), while this share was 27% for European or Asian immigrants.

**Figure 5.4. Share of immigrants and population in cities in selected EU countries, by place of birth**

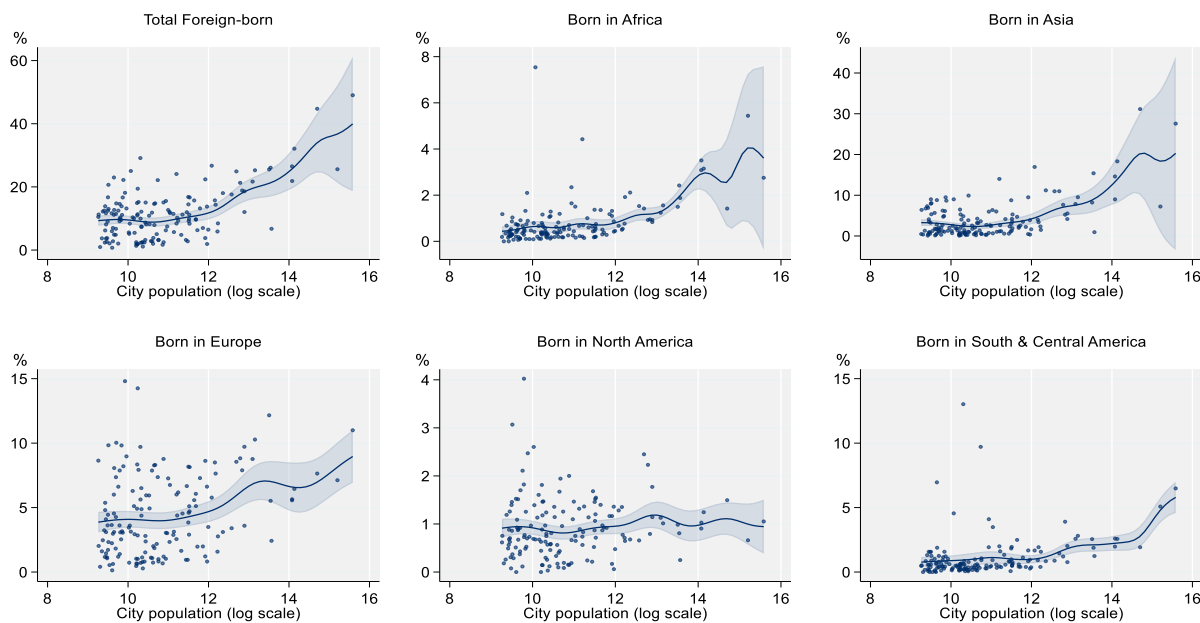


Note: Total population (aged 0+) of functional urban areas (FUAs) with more than 50 000 inhabitants. The dark and light blue lines show kernel-weighted local polynomial smoother for the relationship between city population and the share of immigrants – EU-born and non-EU-born, respectively. A FUA consists of a densely inhabited city and of a surrounding area whose labour market is highly integrated with the city.

Source: Eurostat; OECD Secretariat calculations.


StatLink  <https://stat.link/6tai28>

**Figure 5.5. Share of immigrants and population in Canadian cities, by place of birth, 2016**

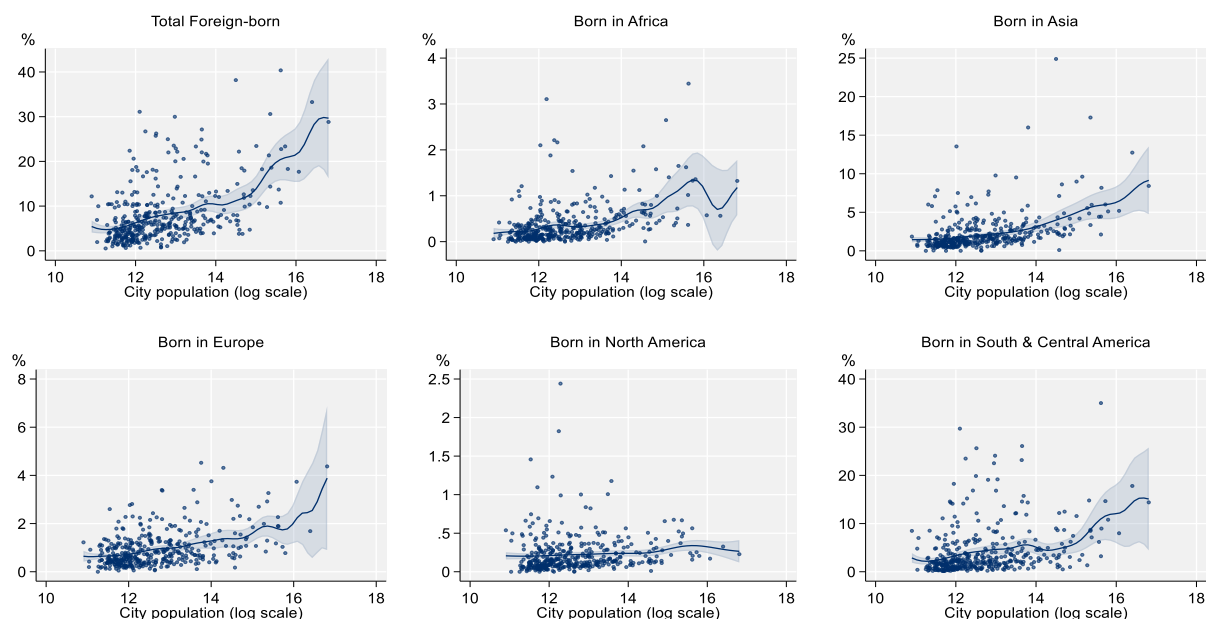


Note: Total population (aged 0+) of census metropolitan areas and census agglomerations. The scale of the vertical axis varies across continents of birth. The blue line shows a kernel-weighted local polynomial smoother.

Source: Statistics Canada (Census 2016); OECD Secretariat calculations.

StatLink  <https://stat.link/nxy5mg>

**Figure 5.6. Share of immigrants and city population in the United States, by place of birth, 2018**



Note: Total population (aged 0+) of Metropolitan Statistical Areas. The scale of the vertical axis varies across continents of birth. The blue line shows a kernel-weighted local polynomial smoother.

Source: Census Bureau (American Community Survey 2018, 5-year estimates); OECD Secretariat calculations.

StatLink  <https://stat.link/odx5in>

### ***Immigrant concentration within cities***

Immigrants also tend to be concentrated within cities. This has long been recognised and has given rise to a large transdisciplinary literature on immigrants' residential segregation across neighbourhoods (see Annex for a discussion of measurement issues).

#### *Key findings from the literature*

Drawing on the existing literature, it is possible to describe some aspects of immigrants' residential segregation in several OECD countries. This description will remain only partly comparative because, across contexts, segregation is often measured along different dimensions and geographical units. In addition, some studies deal explicitly with immigrants, while others refer to broader ethnic residential segregation – including native-born descendants of immigrants.

In a recent comparative study, Andersson et al. (2018<sub>[12]</sub>) analysed residential segregation patterns at the neighbourhood level in 2011 in Belgium, Denmark, the Netherlands and Sweden. Rogne et al. (2020<sub>[13]</sub>) used the exact same methodology to add Norway to this comparison. Both studies used geo-coded, individual-level register data from all five countries to compute comparative measures of segregation of non-European immigrants, across neighbourhoods covering the whole territory of each country, at different spatial scales (from small neighbourhoods with about 200 people, to larger areas with about 51 000 people). At the smallest scale level, corresponding to neighbourhoods with 200 persons, they found strikingly similar patterns of concentration for the first four countries, while Norway stands out with a much lower level of segregation, as measured by the dissimilarity index (see Annex Box 5.A.1 for the definition). At larger-scale levels, Belgium had relatively strong concentration compared with other countries (Table 5.2).

**Table 5.2. Dissimilarity index of non-European immigrants in Belgium, Denmark, the Netherlands, Sweden and Norway, 2011**

Neighbourhood size	Belgium	Denmark	Netherlands	Sweden	Norway
200	51.2	47.5	48.7	48.9	42.9
1 600	47.3	40.4	43.6	44.1	35.9
12 800	43.7	31.3	37.5	35.7	29.2
51 200	40.6	25.3	32.6	29.7	26.2

Note: In this analysis, the dissimilarity index is computed as the sum across neighbourhoods of the absolute difference between non-European migrant representation ( $nei/NE$ : number of non-European-born living in neighbourhood  $i$ , divided by the total non-European-born population) and European-born person representation, including the native-born ( $ei/E$ ), divided by two (see also Annex Box 5.A.1). In each row, the dissimilarity index is computed for individualised neighbourhoods of different size: 200 nearest neighbours, 1 600 nearest neighbours, etc.

Source: Rogne et al. (2020<sub>[13]</sub>), "Neighbourhood Concentration and Representation of Non-European Migrants: New Results from Norway", <http://dx.doi.org/10.1007/s10680-019-09522-3>.

StatLink  <https://stat.link/lg72p5>

The Belgian case was further analysed by Costa and De Valk (2018<sub>[14]</sub>). They identified a process of clustering of deprived migrants in Belgium's inner cities. Despite the central location of neighbourhoods with high concentration of migrants and poverty, they found concentration to be very high, both in extension and in population density. They identified macro/national factors such as housing policies as key determinants of the segregation patterns in Belgian cities. Across neighbourhoods in Brussels, in 2016, the share of people with foreign background was much higher in the lower income areas of the city: it was up to 81% in Saint-Josse-ten-Noode, Molenbeek, Anderlecht and Schaerbeek (SPF Emploi and Unia, 2020<sub>[11]</sub>).

For Germany, Buch, Meister and Niebuhr (2021<sub>[15]</sub>), using geocoded data for 2007-09, found that the level of segregation of foreign nationals was relatively low in German cities, although with considerable variation in both segregation and diversity across cities. East German cities were characterised by a low population share of foreign workers, a high diversity in terms of origin among foreign workers and an above-average degree of segregation. The largest West German cities, as well as the main college towns, tended to show a diverse population structure, accompanied by low segregation levels. In contrast, cities in the old industrialised Ruhr area were characterised by above-average segregation levels and relatively low diversity. Looking at differences across foreign nationality groups in Germany, Sager (2012<sub>[16]</sub>) assessed the residential segregation of immigrants from Turkey, Italy, the Balkans and Eastern Europe, with a special focus on the link between social and nationality-based segregation. Substantial levels of residential concentration in the form of own-group overexposure were found for all four migrant groups. This study also measured the effect of socio-economic neighbourhood sorting on residential segregation by foreign nationals. It showed that differences in income, education, language skills and village/city size could account for 29-84% of the residential isolation of the four groups (see Annex Box 5.A.1 for the definition of the isolation index).

The case of Sweden was studied in detail by Malmberg et al. (2018<sub>[17]</sub>). They analysed changes in the composition of Swedish neighbourhoods at different scales from the 1990s to the mid-2010s. The results confirmed that migrants, especially those from non-European countries, faced high levels of segregation in Sweden. Large increases in the non-European populations in combination with high levels of segregation have increased the proportion of non-European migrants living in neighbourhoods that already had high proportions of non-European migrants. However, for both European migrants from 1990 and non-European migrants from 1997, the authors identified a downward trend in segregation as measured by the dissimilarity index at all scale levels.

Immigrant segregation trends in France over the last 40 years were reviewed by Pan Ké Shon and Verdugo (2015<sub>[18]</sub>). Similarly to other European countries, France experienced a rise in the proportion of immigrants

in its population that was characterised by a new predominance of non-European immigration. Despite this, average segregation levels remained moderate. There was a significant decrease in residential segregation of immigrants from the late 1960s to the late 1980s, due in part to the eradication of slums located at the periphery of a number of large French cities, and the spatial diffusion associated with more diversified housing options. Since the 1990s, residential segregation, as measured by the dissimilarity index, has remained relatively stable for most origin groups. However, the number of census tracts with more than 30% of immigrants in the population has increased, particularly during the 2000s. Comparing the distribution of immigrants and natives across census tracts in 2007, the study showed that about three-quarters of the native-born lived in census tracts with at most 15% of immigrants (from all origins). By contrast, only about one-third of immigrants from North Africa, Sub-Saharan Africa or East Asia lived in these census tracts, and about 20% of them lived in census tracts with more than 30% of immigrants.

A recent study provides additional insights on trends in residential segregation of immigrants and their children in France since the 1990s (Botton et al., 2020<sup>[19]</sup>). The authors found that immigrants of European origin exhibit low and stable segregation over time, as measured through the dissimilarity index. Those of non-European origin, and especially their children, are much more segregated, though less so in 2015 than in 1990. However, because their numbers have increased, children living with at least one non-European immigrant parent are more likely to live in neighbourhoods where they make up the majority of the under-18s (38% in 2015, compared with 17% in 1990).

For the United States, Iceland and Scopilliti (2008<sup>[20]</sup>) examined the extent of residential segregation among immigrants of different racial and ethnic origins using data from the 1990 and 2000 censuses. The findings provided broad support for spatial assimilation theory, which posits that residential mobility follows from the acculturation and social mobility of individuals, resulting in the dispersion of immigrant and minority-group members and desegregation over time. Foreign-born Hispanics, Asians, and blacks appeared more segregated from native-born non-Hispanic whites than were the US-born of these groups. The patterns for Hispanics and Asians could be explained by the average characteristics of the foreign-born generally associated with higher levels of segregation, such as lower levels of income, English language ability, and homeownership. The authors also found that immigrants who had been in the United States for longer periods were generally less segregated than new arrivals. However, patterns also varied across groups. Levels of segregation were much higher for black immigrants than for Asian, Hispanic, and white immigrants. In addition, because black immigrants were, on average, of higher socio-economic status than native-born blacks, such characteristics could not help explain their very high levels of segregation.

A more recent analysis focused on how suburbanisation affected the residential segregation of foreign-born populations in the United States (Farrell, 2016<sup>[21]</sup>). While city centres are generally more attractive than suburban neighbourhoods in most European countries, the opposite is true in the United States, where suburbanites in large metro areas usually have higher income levels than people living in urban core areas. In this context, moving from the city centre to a suburban neighbourhood is typically viewed as an ascending residential trajectory. Using 2000-12 data from the decennial census and American Community Survey, the study tracked the suburban settlement patterns of 17 country-of-origin groups. The findings indicated that most immigrant groups rapidly suburbanised during the 2000s, though with large differences in suburbanisation rates among country-of-origin groups. Immigrant suburbanites tended to be less segregated from US-born whites than were their counterparts from the same ethnic origin in large cities. At the metro level, suburbanisation was associated with lower levels of immigrant segregation even after controlling for relevant metropolitan characteristics. These findings are consistent with spatial assimilation, though trends over time suggest a more complicated picture. While immigrants are gaining access to the suburbs, most groups experienced increasing segregation at the same time they were rapidly suburbanising. This is due to increasing segregation within the suburbs, which often offsets segregation declines occurring within large cities.

A study on Canada also highlighted the rising suburbanisation of immigrant settlement in the main cities (Houle and Vézina, 2017<sup>[22]</sup>). Using data from the 2001 and 2006 censuses and the 2011 National Household Survey, the authors showed that the settlement of the immigrant population in municipalities (census subdivisions) on the periphery of central municipalities grew steadily between 2001 and 2011 in the Montréal, Toronto and Vancouver metropolitan areas. During this period, the proportion of immigrants living in the periphery rose from 27% to 33% in Montréal, from 40% to 50% in Toronto, and from 66% to 72% in Vancouver. This trend of suburbanisation of immigrants is observed not only among established immigrants who have lived in Canada for several years and their second-generation descendants, but also among recent immigrants who have been settled for five years or less. This changing location pattern of immigrants does not mean, however, that they have become less spatially concentrated. In fact, the dissimilarity index is higher in the peripheral municipalities than in the centre of the three cities considered.

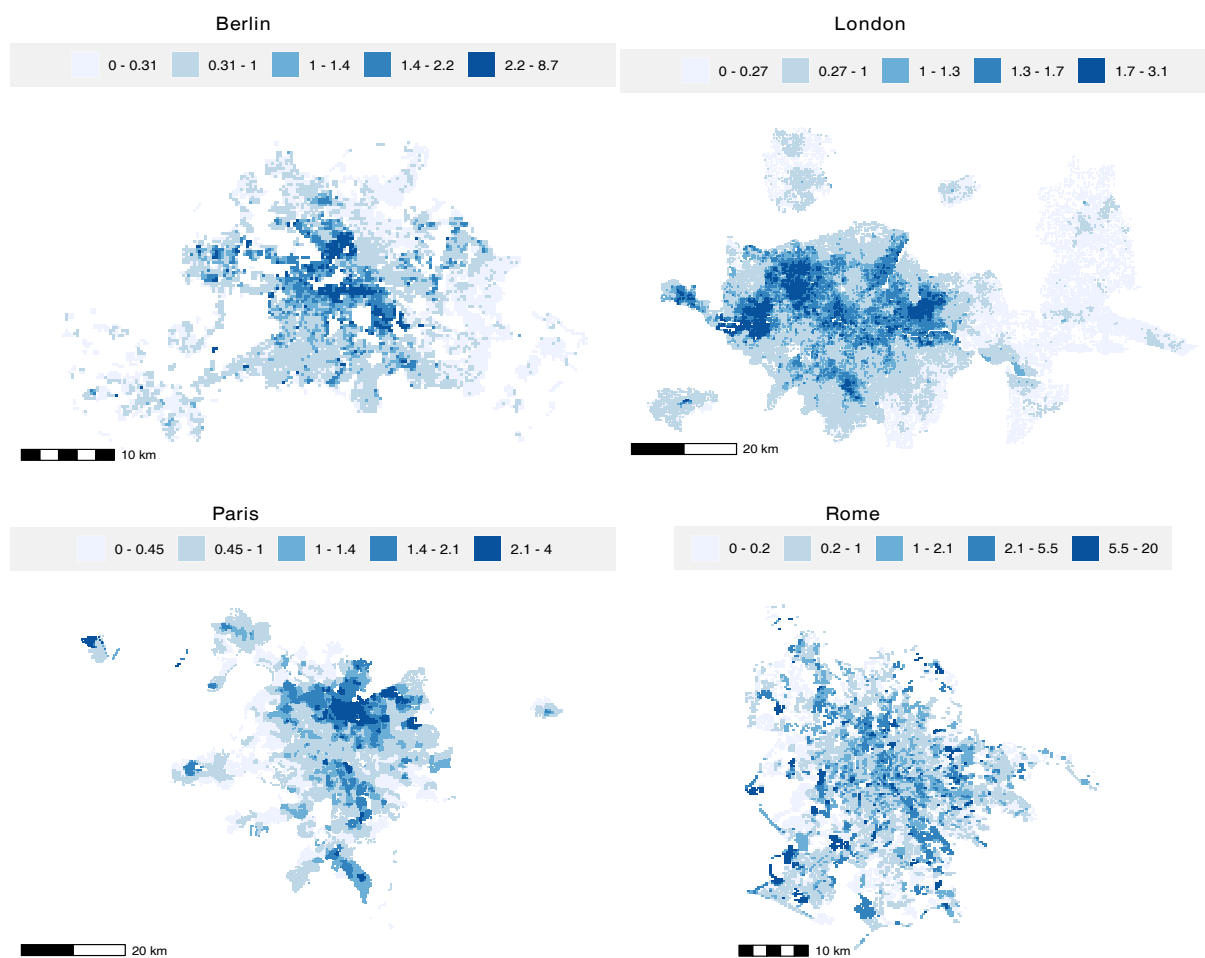
### *New evidence on residential segregation in cities of selected OECD countries*

Using spatially disaggregated population data by origin, the concentration of immigrants across neighbourhoods is visible in a wide range of OECD cities. Examples for some European capitals are shown in Figure 5.7, which depicts the location quotient for non-EU immigrants at a very fine spatial level, based on the *Data for Integration* (D4I) dataset published by the Joint Research Centre of the European Commission (Alessandrini et al., 2017<sup>[23]</sup>) (see Annex Box 5.A.2 for the methodology). From this selection of maps, it is apparent that location patterns of non-EU immigrants are quite diverse across European cities. For example, in Berlin, there is a visible difference between the former West and East parts of the city, with a much higher share of immigrants in the Western part compared to the Eastern part, and mostly in the centre of the city compared to the outskirts. This rather unique pattern is driven by the fact that Berlin was a separated city prior to the fall of the Iron curtain – the districts in the centre of the city were its outskirts prior to 1990. In Paris, non-EU immigrants are strongly concentrated in the Northern and North-eastern parts of the urban area, especially in the Seine-Saint-Denis department, as well as along the Seine river South-East of Paris. In these areas, the share of non-EU immigrants in the population is at least twice as high as the average share in the urban area. In London, the share of non-EU immigrants is higher than average in several extended areas of the city, in particular in the Northwest and West (Kenton, Harrow, Wembley, Southall, Hounslow) as well as in the Northeast (Ilford, Barking). By contrast, in Rome, non-EU immigrants are clustered in much smaller areas scattered around the city.

Across countries covered in the D4I data, cities exhibit very different segregation levels (Figure 5.8). In a number of cities, the dissimilarity index of non-EU immigrants, which represents the proportion of members of this group that would have to change their neighbourhood of residence to achieve an even distribution, is below 20%, while in others it is higher than 50%. There are also differences between countries: on average, French, German and Dutch cities exhibit lower levels of residential segregation of non-EU immigrants than British, Italian or Spanish cities. For Italy and Spain, and to some extent for Germany, there is a negative correlation between the share of non-EU immigrants at the city level and their dissimilarity index. In Spain and Italy in particular, the dissimilarity index reaches high levels in cities where the share of non-EU immigrants is quite low. On the contrary, in France, the Netherlands and the United Kingdom, there is no obvious correlation between the dissimilarity index and the share of non-EU immigrants.



Figure 5.7. Location quotients of non-EU-born immigrants in Berlin, London, Paris and Rome, 2011

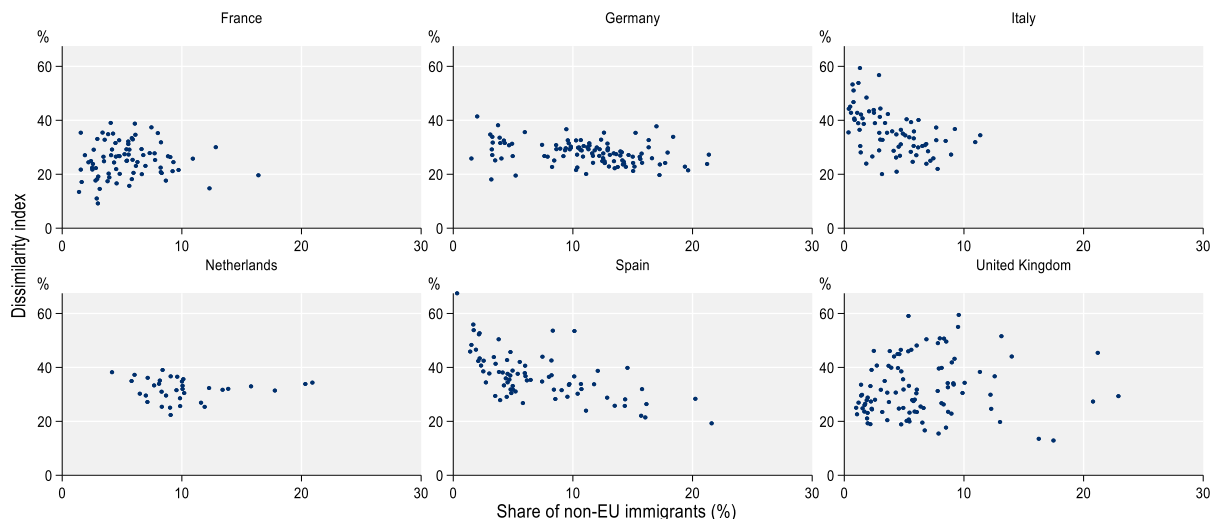


Note: Maps at different scales. Functional urban areas: core only.

Source: Joint Research Centre D4I dataset; OECD Secretariat calculations.

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**Figure 5.8. Dissimilarity index and share of non-EU immigrants in cities in European countries, 2011**

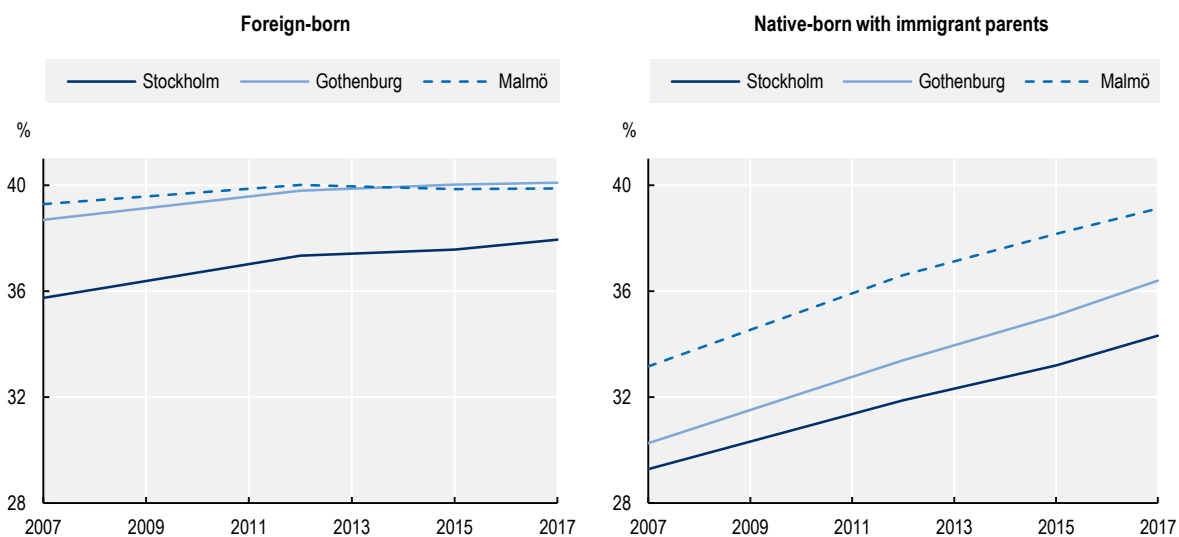


Source: Joint Research Centre D4I dataset; OECD Secretariat calculations.

StatLink  <https://stat.link/x63oy8>

For Sweden, there is evidence of a moderate increase in the residential segregation of immigrants in the three main cities (Stockholm, Gothenburg and Malmö) between 2007 and 2017, as measured by the dissimilarity index of the foreign-born compared to the native-born (Fjellborg and Söderhäll, 2021<sup>[24]</sup>). The residential segregation of native-born with immigrant parents, compared to the native-born with a Swedish background, has however increased much more strongly and regularly over this period (Figure 5.9). In Stockholm, non-EU born immigrants are mostly concentrated in suburbs dominated by large-scale rental housing units built during the period 1955-80 (e.g. Rinkeby in northern Stockholm, Vårberg in Huddinge, etc.). The most central area in Stockholm with a high concentration of non-EU born individuals is Östberga, an older suburb planned during the 1950s. In the inner city and the suburbs with single-family housing units, the share of non-EU immigrants is much lower, and a large majority of the population is native-born or EU-born. The same pattern can be observed in Gothenburg, with a high concentration of non-EU immigrants in large-scale modernist suburbs (e.g. Angered) (Figure 5.10).

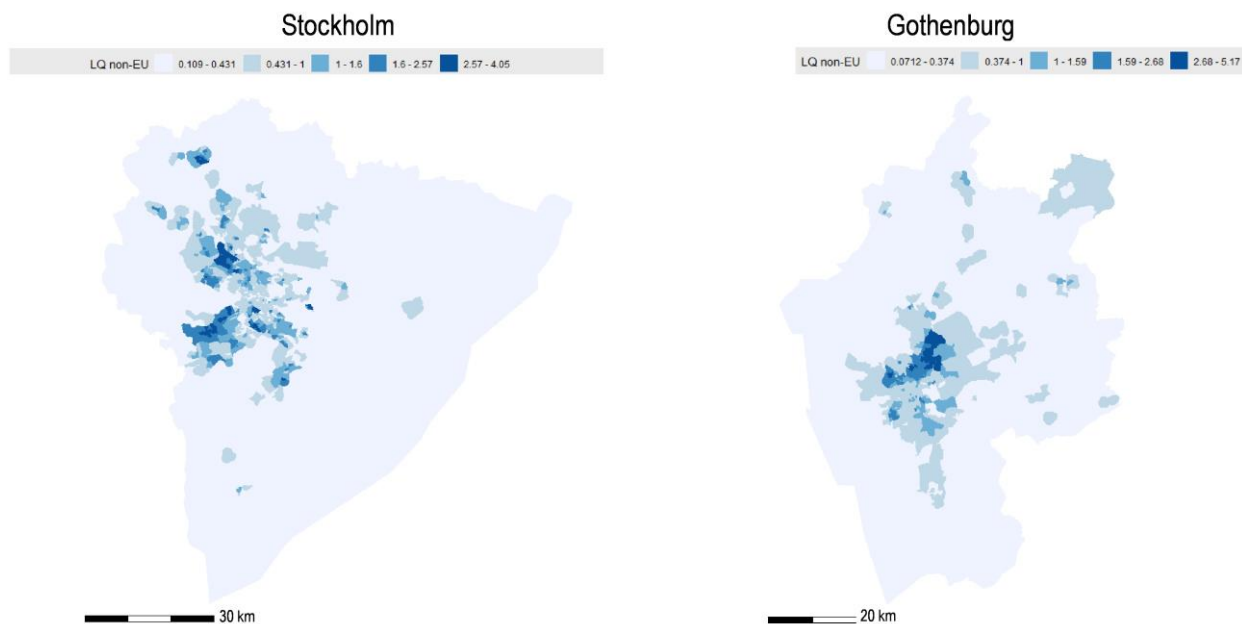
**Figure 5.9. Dissimilarity index of immigrants and native-born with immigrant parents in Stockholm, Gothenburg and Malmö, Sweden, 2007-17**



Source: Fjellborg and Söderhäll (2021<sup>[24]</sup>), "Spatial concentration and residential segregation of immigrants in Sweden".

StatLink  <https://stat.link/vrlz05>

**Figure 5.10. Location quotients of non-EU immigrants in Stockholm and Gothenburg, Sweden, 2017**



Source: Fjellborg and Söderhäll (2021<sup>[24]</sup>), "Spatial concentration and residential segregation of immigrants in Sweden".

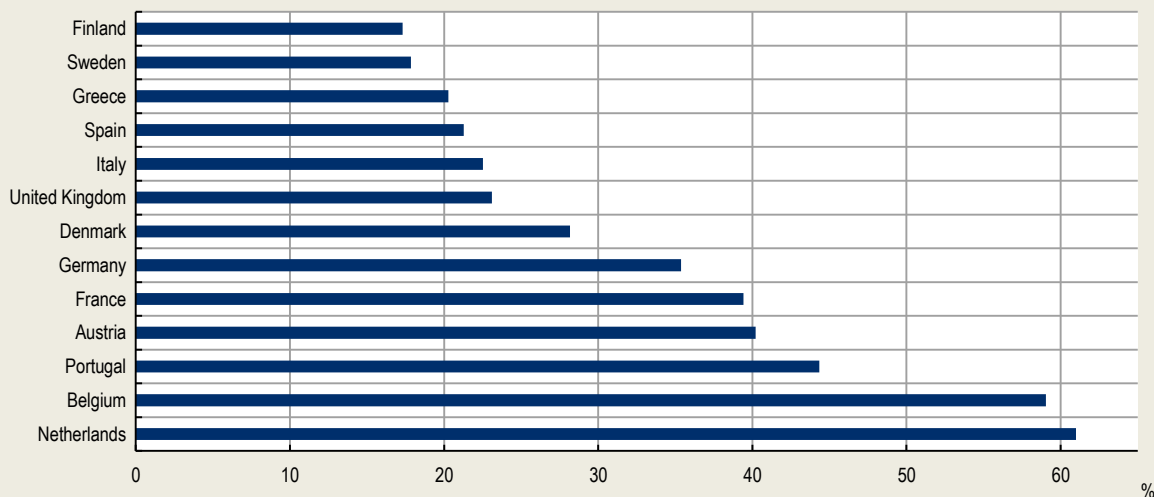
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### Box 5.3. Perceptions of residential segregation among immigrants in EU countries


The Second European Union Minorities and Discrimination Survey (EU-MIDIS II), carried out by the EU Fundamental Rights Agency in 2016 provides interesting comparative insights on perceptions of residential segregation among immigrant groups in a dozen of EU countries. Respondents were asked to assess the share of residents of the same ethnic or immigrant background as themselves in their neighbourhood (Figure 5.11). Across all countries, 35% of respondents – immigrants or native-born with immigrant parents – said that they lived in a neighbourhood where all or most residents had the same background as themselves. Results show that this perception varies significantly across countries: the highest shares were observed in the Netherlands and Belgium, while the lowest shares were reported in Finland, Sweden and Greece.

A multivariate analysis shows that people with higher education levels reported much less frequently living in such neighbourhoods than those with lower levels of educational attainment. Respondents originating from Sub-Saharan Africa were less likely to say that they lived in segregated areas than those from Turkey, North Africa or South Asia. This was also the case for younger immigrants and native-born children of immigrants. People living in larger and poorer households were also more likely to report living in a segregated neighbourhood. There was however no difference across gender.

**Figure 5.11. Share of respondents saying that they live in neighbourhoods where all or most people in their neighbourhood have the same ethnic or immigrant background as themselves, 2016**



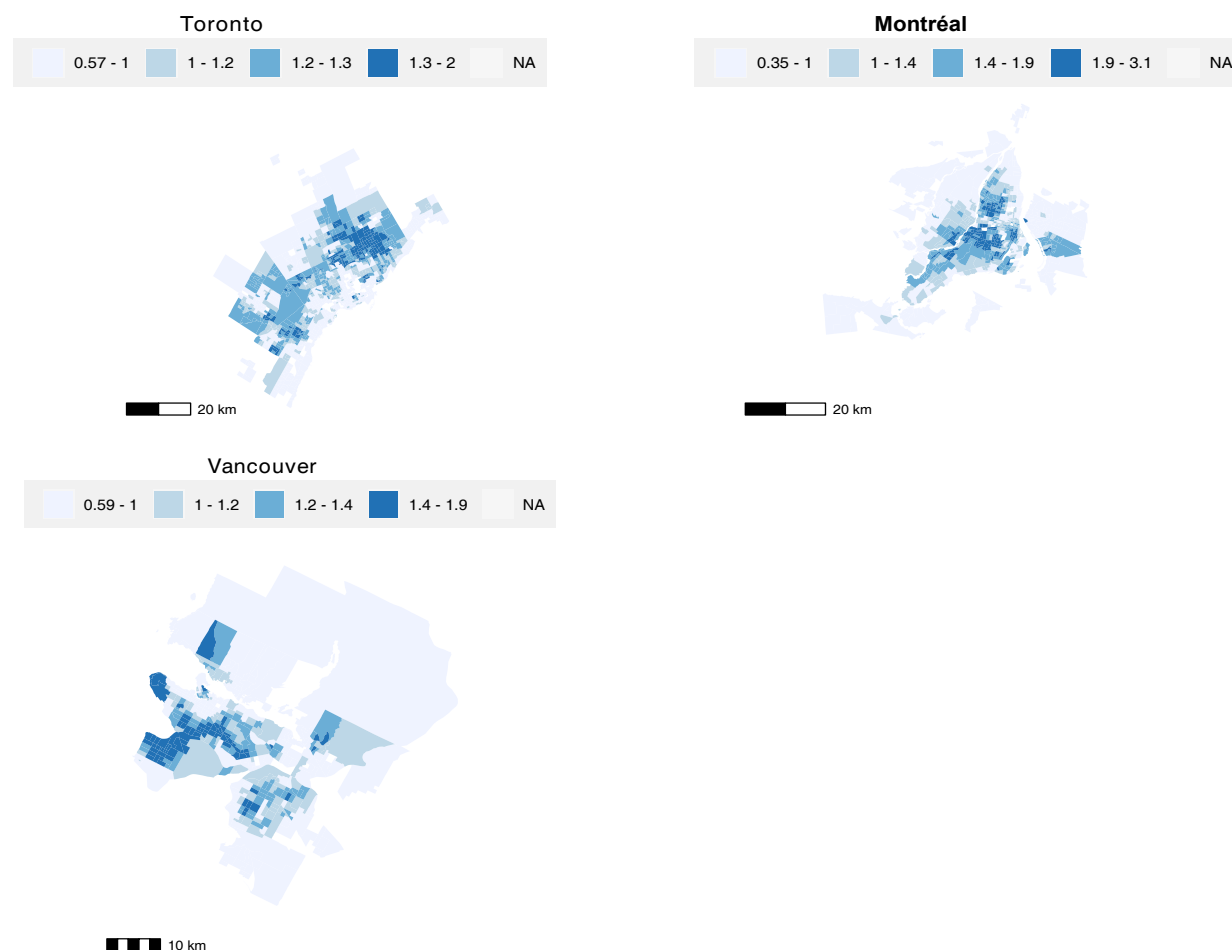
Note: Respondents aged 16+ who are immigrants or children of immigrants. The survey question is: "In the neighbourhood where you live, how many of the residents would you say are of the same ethnic or immigrant background as you: all of the residents, most of them, some or none of them?". The chart reports the share of respondents reporting that all or most residents are of the same background as themselves. Source: EU MIDIS II, OECD Secretariat calculations.

StatLink  <https://stat.link/2b7ye0>

In Canada, based on tract-level data from the 2016 census, there is also evidence of concentration of the foreign-born in specific neighbourhoods (Figure 5.12). For example, in Toronto, Scarborough and Markham are two areas where immigrants, especially Asians, are over-represented. In Montréal, many

Haitian immigrants live in specific areas of the city, such as Montréal-Nord, where they represent more than 15% of the total population in several census tracts.

**Figure 5.12. Location quotients of the foreign-born in Toronto, Montréal and Vancouver, 2016**



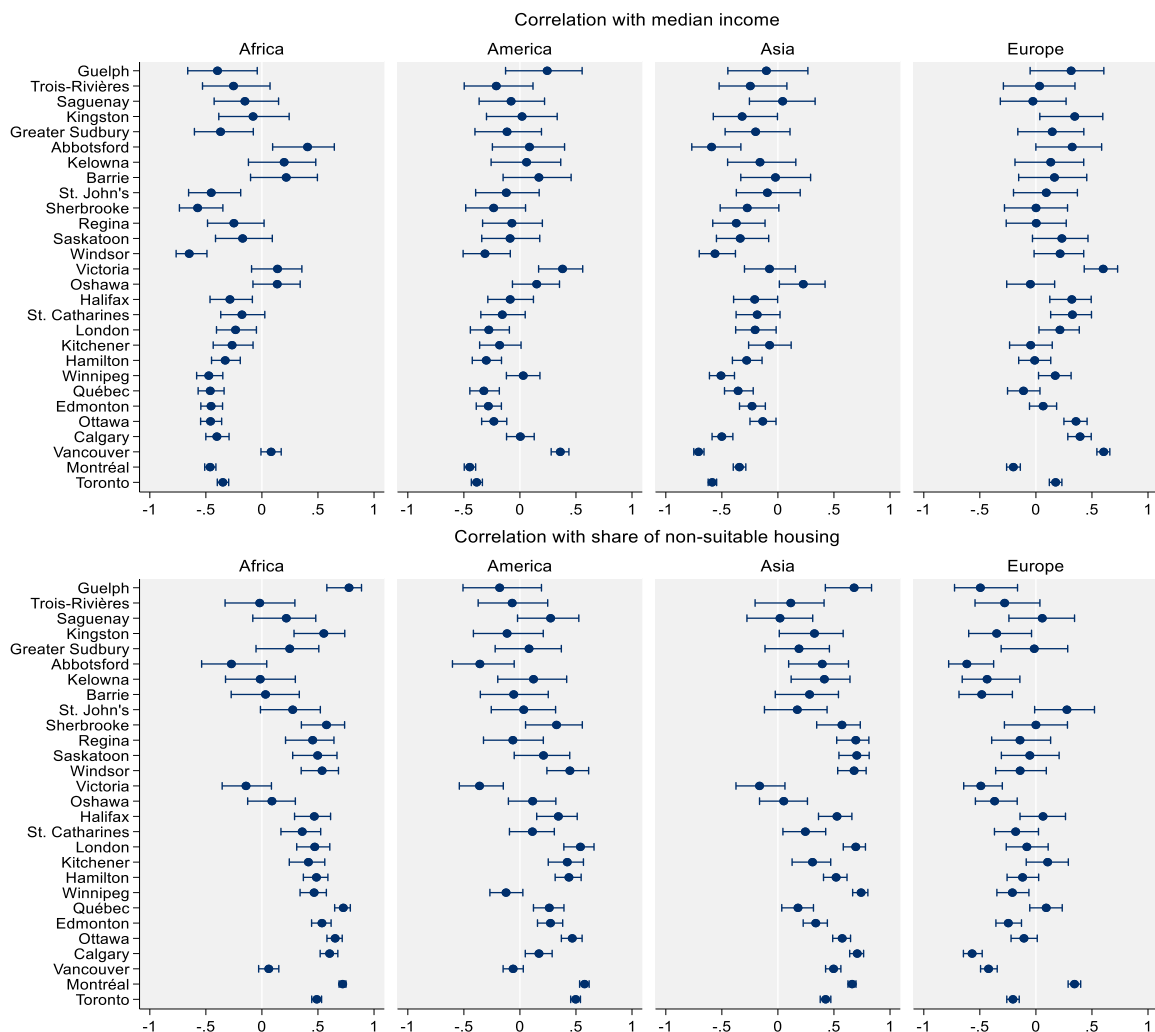
Note: Data for census tracts.

Source: Census Profile 2016, StatCan; OECD Secretariat calculations.

StatLink  <https://stat.link/cmwkio>

A more systematic appraisal of living conditions in Canadian neighbourhoods with high share of immigrants can be obtained by looking at the correlation between tract-level shares of different groups of immigrants and local indicators of living standards, such as median income or the share of people living in non-suitable housing. As shown in Figure 5.13, there is a consistent negative correlation between the share of immigrants from African, Asian and American countries and the two living standards indicators at the tract level in the main Canadian metro areas. However, the relationship is absent or at least less significant for European immigrants, as well as in smaller cities. Among the largest cities, Vancouver stands out: in contrast to other metro areas, there is no negative correlation between tract level median income and the share of African or American immigrants, median income is significantly lower in tracts with a higher share of Asian immigrants. This is probably because there are relatively few non-Asian immigrants in Vancouver, compared to Toronto and Montréal. As a result, Asians are the only immigrant group for which there is significant tract level concentration in Vancouver, while this is much more prevalent for other groups in the other large cities.

**Figure 5.13. Correlation between the share of immigrants from different regions of birth and living standards (median income and share of non-suitable housing) in Canadian cities, 2016**



Note: Metro areas ranked by population size (largest cities at the bottom); Pearson correlation coefficients and 95% confidence intervals. Each dot shows, across census tracts within a given city, the correlation between the share of immigrants from a given region and one of the two indicators of living standards (median income and share of non-suitable housing).

Source: Census Profile 2016, Statistics Canada; OECD Secretariat calculations.

StatLink  <https://stat.link/xd0jrt>

In the case of Japan, based on data from the three most recent censuses, Korekawa (2021<sup>[25]</sup>) has shown that the share of foreigners living in census tracts with at least 10% of foreigners has increased rapidly between 2010 and 2015: this proportion was 5.4% in 2010 and 9.9% in 2015. In addition, Brazilian immigrants were much more likely (19.5%, in 2015) than Chinese nationals (3.8%) to live in such areas, which points to very different patterns of spatial integration. In a number of prefectures, the share of foreigners living in migrant concentrated areas was higher than 15%.

### *A school level perspective on residential segregation: Evidence from PISA*

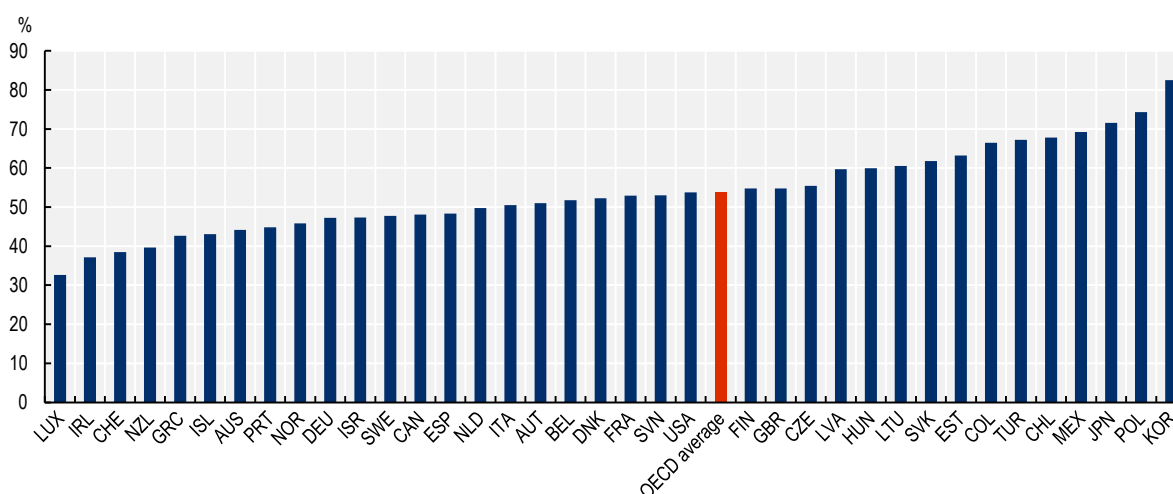
The composition of students in schools reflects the degree of residential segregation in the respective area, especially in the case of strict residence-based school allocation. Concentration of children of immigrants

in schools is prevalent in all OECD countries. OECD-wide, three out of four 15-year-old students with immigrant parents go to schools where at least a quarter of their classmates also have migrant parents and almost one in five go to a school where over three-quarters do. Obviously, that share is larger in countries with larger immigrant presence than in that with smaller presence. A comparable measure is presented in Figure 5.14, which shows the percentage of children of immigrants that are in the quartile of schools with the highest concentration.

On average in the OECD, more than half of all children of immigrants find themselves in the top quartile of concentrated schools. This concentration is highest in countries with small immigrant populations, while children of immigrants are much more dispersed in countries with large shares of children of immigrants.

### Figure 5.14. Concentration of children of immigrants in schools

Share of 15-year-old pupils with at least one immigrant parent who attend schools in the top quartile of schools in terms of share of children of immigrants, 2018



Note. Schools with the highest concentration refer to the top quartile of schools by the share of children of immigrants. Each quartile has the same number of students overall.

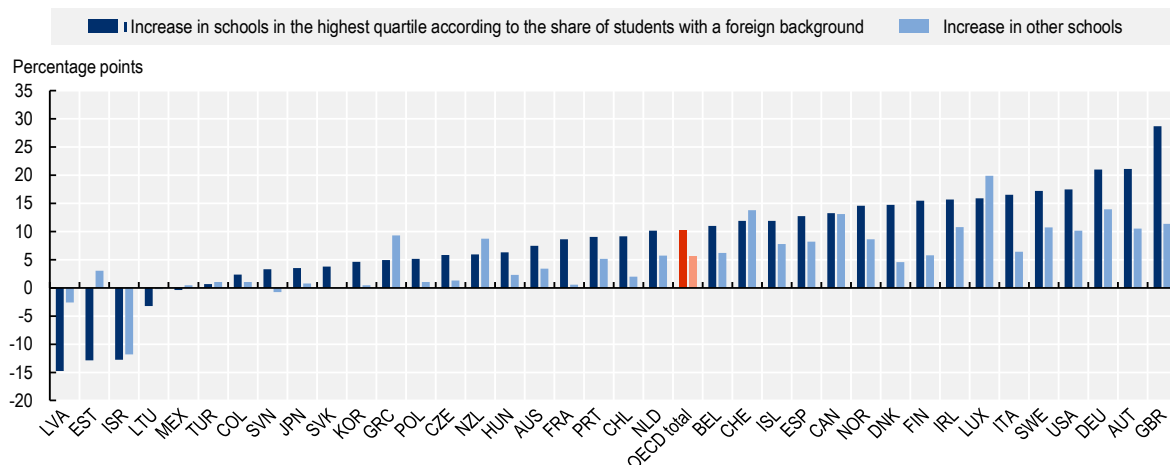
Source: PISA 2018.

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At the same time, the concentration of children of immigrants in schools has increased in most OECD countries between 2006 and 2018 (Figure 5.15). Among the 33 OECD countries that registered increasing shares of children of immigrants at age 15 since 2006, only Greece, Luxembourg, New Zealand and Switzerland have not seen an increase in concentration. In all other countries, the share of children of immigrants increased; on average it increase twice as much in the most concentrated schools as in the remainder.

## Figure 5.15. Evolution of concentration of children of immigrants in schools

Change in the share of students at age 15 with at least one immigrant parent between 2006 and 2018



Note: Schools with the highest concentration refer to the top quartile of schools by the share of children of immigrants. Each quartile has the same number of students overall.

Source: PISA 2006 and 2018.

StatLink  <https://stat.link/uglyow>

## Location choices and residential mobility of immigrants

The spatial concentration of immigrants at the regional level, as well as within cities, is driven by their location choices. Understanding changes in concentration or residential segregation therefore requires to characterise immigrants' initial location choices upon arrival in the destination country, as well as their subsequent residential mobility. Do immigrants tend to locate in areas where there is already a significant share of people from the same origin as themselves, or do they rather tend to move away from such neighbourhoods? In addition, residential segregation is affected by the location choices of the native-born: in a given area, even without any changes in the location pattern of immigrants. Do the native-born tend to leave neighbourhoods with a high share of immigrants? And, when moving, do they select destinations where there are fewer immigrants?

### Initial location of immigrants

#### *Key findings from the literature*

A significant amount of literature has examined the initial location choices of immigrants in the United States, covering arrivals from the mid-1960s to the recent years. Using data from the 1980 census, Bartel (1989<sup>[8]</sup>) showed that recently arrived immigrants tended to live in cities where immigrants from the same origin countries were already present, pointing to the role of immigrants' origin-related social networks to facilitate their installation and integration in the destination country. The role of this variable was similar for Asian and Hispanic immigrants and a bit less important for European immigrants. In addition, educational attainment moderated this association, suggesting that more educated immigrants were less reliant on their origin-related social networks to settle.

For immigrants arrived in the early 2000s, Huang and Newbold (2017<sup>[26]</sup>) found that the dispersion of new immigrant groups varied by origin, although all groups were subject to the attraction of communities from



the same ethnic origin and better labour market conditions in the destination. However, ethnic concentration was much more important than labour market conditions in the destination choice decision, particularly for the poorly educated. In contrast, there was a strong negative effect of ethnic concentration on the location choice decision of highly educated new immigrants.

There are also important differences in settlement and mobility patterns by entry categories. For example, looking at the location choices of new recipients of legal permanent residence and new refugees between 1989 and 1994, Zavodny (1999<sup>[27]</sup>) reported that legal permanent residents admitted under employment-based preferences in the United States were locating in states with favourable economic conditions and with lesser association with the location of other foreign-born people than most of the other admission categories. On the other hand, new refugees and refugees converting to long-term permanent resident status appeared to be more likely to settle in states with higher social benefits. However, this could also be associated with other factors such as a greater willingness of such states to accept refugees. Likewise, analysing the location choices of immigrants (1971-2000) per category, Jaeger (2007<sup>[28]</sup>) found that immigrants had a higher probability of moving to states where individuals from their region of birth constituted a larger share of the state population. Labour market conditions were found to affect immigrant location choices across time and across admission categories, but were most important in determining employment-related immigrants' locations.

While most of the literature on the United States looks at location choices at the state level, Scott, Coomes and Izyumov (2005<sup>[29]</sup>) analysed location choices at the MSA level for new employment-based immigrants arrived in 1995. They found that economic migrants were generally attracted to large cities with warmer weather, higher wages, and a higher-educated population. They also noted the tendency for immigrants to settle in localities where there is a higher share of immigrants of their own origin already living there, varied greatly according to individual characteristics of immigrants, such as age, education and marital status.

Looking at the location choice of Mexican immigrants across US cities or counties, using survey data from the Mexican Migration Project,<sup>6</sup> Bauer, Epstein and Gang (2005<sup>[30]</sup>) found that Mexican immigrants were attracted to communities where the Mexican share of the population was higher. This effect, however, was moderated by English language proficiency: the effect was strongest on the location choice of immigrants with the lowest language abilities and more modest for those who had the highest language proficiency.

Outside of the United States, the literature on location choices of immigrants has developed more recently and remains limited to the main OECD destination countries. In the case of Canada, Hou (2007<sup>[31]</sup>), using data from five consecutive censuses of Canada over the period from 1981 to 2001, concluded that most of the rising concentration in the 1970s and 1980s was attributable to the increase in the concentration of initial destination among most immigrant groups. In the 1990s, the rise in the concentration level of immigrants at their initial destination primarily resulted from the continuing shift in immigrant source regions. During the 1980s and 1990s, changes in the concentration level of immigrants at their initial destination were clearly the major determinant of the geographic distribution of immigrants, while internal mobility after immigration had a much smaller effect.

For the United Kingdom, a study looked at the determinants of the location choice of recent immigrants in 2007-09, at the ward and district level using National Insurance Number (NINo) registrations (in England) (Lympelopoulou, 2013<sup>[32]</sup>). Results showed that higher neighbourhood co-ethnic density and ethnic diversity levels were associated with increased immigrant settlement. Most immigrants were also more likely to settle in neighbourhoods with a higher availability of social housing. Apart from EU Accession nationals, immigrants were more likely to settle in large urban districts.

In the case of Germany, Tanis (2020<sup>[33]</sup>) investigated initial and subsequent location choices of recent European Union immigrants at the county level (NUTS-3), using federal employment register data. Results suggested heterogeneous preferences among individuals regarding regional characteristics. For the first

location choice, good labour market conditions seemed to attract immigrants strongly, while the presence of co-nationals appeared to be less important.

In a study on location choices of immigrants who arrived in the Netherlands in 1999, Zorlu and Mulder (2008<sup>[34]</sup>) analysed the settlement patterns of immigrants from various countries of origin who entered the country as labour, family or asylum migrants. They identified distinct settlement trajectories for asylum and other non-Western immigrants. The presence of immigrants from the same origin countries and their descendants and other persons with immigrant parents, but also socio-economic neighbourhood characteristics, appeared to play an important role in determining location choice. They also found differences in the settlement and spatial mobility patterns of immigrants with various degrees of distance from the native Dutch in terms of human and financial capital, proficiency in the relevant language(s), and religion.

An analysis of location choices of immigrants arrived in Belgium between 1994 and 2007 showed that local factors, including local employment opportunities, mattered more than network effects driven by the presence of immigrants from the same origin (Jayet et al., 2016<sup>[35]</sup>).

For Japan, an analysis of the destination choices made by new immigrants who entered Japan in the 1995-2000 period indicated that destination-choice patterns differed markedly by ethnicity. In addition, the higher the educational attainment of the immigrants, the greater the attraction of the Tokyo prefecture and the less dispersed the destination-choice pattern (Liaw and Ishikawa, 2008<sup>[36]</sup>). A more recent study analysing the destination choices of new immigrants within Japan in the period 2005-10 found three main factors explaining location choices: local labour market conditions, attraction to communities from the same ethnic origin, and, to a lesser extent, the spatial distribution of marital opportunities (Hanaoka, Ishikawa and Takeshita, 2017<sup>[37]</sup>).

#### *New empirical evidence on the initial location choice of immigrants*

Using the American Community Survey and focusing on immigrants who have lived in the United States for less than two years, it is possible to analyse the correlates of their initial location choices at the PUMA (Public Use Microdata Area) level. In 2019, half of all newly arrived immigrants aged 20 to 69 located in less than 4% of all PUMAs, which host “only” 25% of the total population of the same age group.

A key variable of interest to understand settlement patterns of new immigrants is the share of immigrants from the same region of origin already living in the area, which captures network effects. Regression results show that these network effects are indeed significant in shaping the location decisions of newly arrived immigrants. As shown in Table 5.3, the number of new immigrants is positively correlated with the share of already settled immigrants from the same origin at the PUMA level. For example, in 2019, a 1 percentage point difference in the share of Central American immigrants living in a given PUMA, all else constant, was associated with about 15 additional new immigrants from this region deciding to settle in this area. This is a substantial effect, as the average number of newly arrived Central American immigrants at the PUMA level was close to 330. It should be noted that the overall number of newly arrived immigrants is also positively correlated with the total share of immigrants already present locally. This reflects the fact that, on average, new immigrants tend to settle in localities with larger immigrant communities, irrespective of their origin. The direct network association – i.e. from the same region of origin – is however at least three times larger than this overall association with immigrant presence.

In addition, new immigrants tend to settle more frequently in the densest neighbourhoods, which confirms that they are attracted by economic opportunities, and more generally by the amenities provided by large cities.

**Table 5.3. Correlation between initial location choice of immigrants and pre-existing local migrant networks in the United States, 2018-19**

Dependant variable: Number of new immigrants from:	Share of immigrants already living in destination:	
	From the same region	Total
– Central America	0.045***	0.014***
– South America	0.108***	0.037***
– Asia	0.049***	0.013***
– Europe	0.110***	0.011***
– Africa	0.315***	-0.008

Note: Each row includes results from a separate Poisson regression of the number of new immigrants (i.e. arrived in the last two years) aged 20-69 from a specific region at the PUMA level on the share of immigrants already living in the same PUMA. In addition to the share of each group of immigrants and the total share of immigrants in the PUMA, regressions include the following control variables, all at the PUMA level: total population, unemployment rate, share of workers in highly skilled occupations, share of people aged 65+, share of low educated individuals, quartiles of population density. \*\*\*: significant at the 1% level.

Source: ACS 2018-19; OECD Secretariat calculations.

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An analysis on Canada at the metropolitan area level, based on census data, shows that, in 2016, 32% of immigrants aged 20-69 who had arrived in Canada in the last two years lived in Toronto (Table 5.4). Vancouver also had a share of new immigrants that was slightly lower than its share of all immigrants (12.6% vs 13.8%), while Montréal, Calgary and Edmonton had higher shares of recent immigrants. This pattern was strikingly differentiated across regions of origin. Latin American immigrants were the most concentrated group of recent immigrants, as only 13% of them lived outside one of the five main destination cities. By contrast, one-third of recent immigrants from the United States lived outside the main cities. Recent Asian immigrants, which represented about two-thirds of all recent immigrants (and a bit less than half of all immigrants), were underrepresented in both Toronto and Vancouver compared to the shares of all Asian immigrants in those cities. However, they were overrepresented in Calgary and Edmonton. European immigrants, which were the second largest group among recent arrivals, were largely overrepresented in Montréal compared to the overall share of European-born in this city.

There were also significant differences in the geographical distribution of recent immigrants according to migration categories, although less marked than across regions of origin (Table 5.5). For example, only 5% of recent refugees settled in Vancouver, while 19% of them lived in Montréal. Among all refugees, the geographical distribution was however quite different, as only 9% of them lived in Montréal, and 14% in Vancouver.

Differences in the geographical distribution of recent versus all immigrants may be explained by different initial location choices or different composition across different cohorts of immigrants, or by mobility patterns of immigrants after their arrival in Canada (including leaving the country), which are discussed below. Policy parameters also increasingly influence settlement of new arrivals in Canada (see section on migration policy further below).

**Table 5.4. Distribution of newly arrived immigrants across metropolitan areas in Canada, by region of origin, 2016 (%)**

	Total		Latin America		United States		Asia		Europe		Other regions	
	New	All	New	All	New	All	New	All	New	All	New	All
Toronto	32.2	36.5	37.6	45.1	23.2	17.6	37.0	43.9	28.9	33.3	14.0	15.5
Montréal	15.7	12.8	30.6	23.4	10.8	7.9	7.7	7.7	27.8	14.2	31.8	20.4
Vancouver	12.6	13.8	6.6	5.2	20.7	12.1	14.9	20.0	13.4	9.2	4.7	6.9
Calgary	8.6	5.6	9.1	3.9	6.9	6.1	8.7	6.5	9.1	4.2	8.0	5.9
Edmonton	7.6	4.3	3.5	2.7	5.4	3.6	7.9	4.8	6.4	3.3	9.4	5.7
Other cities and areas	23.3	27.0	12.6	19.7	33.0	52.8	23.8	17.1	14.4	35.9	32.1	45.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note: Immigrants aged 20-69. Recent: immigrants arrived between 2014 and 2016.

Source: Census of Canada, 2016; OECD Secretariat calculations.

StatLink  <https://stat.link/mihktg>

**Table 5.5. Distribution of newly arrived immigrants across metropolitan areas in Canada, by category of immigration, 2016 (%)**

	Economic		Family and other		Refugees	
	New	All	New	All	New	All
Toronto	29.4	37.0	37.5	40.4	35.8	40.3
Montréal	15.4	16.0	14.8	14.0	19.3	8.6
Vancouver	13.2	13.7	14.1	12.2	5.0	14.4
Calgary	9.1	6.3	9.1	5.7	5.0	5.9
Edmonton	8.5	4.3	5.9	4.4	7.3	5.0
Other cities and areas	24.4	22.8	18.5	23.3	27.6	25.8
Total	100.0	100.0	100.0	100.0	100.0	100.0

Note: Immigrants aged 20-69. Newly arrived immigrants: immigrants arrived between 2014 and 2016.

Source: Census of Canada, 2016; OECD Secretariat calculations.

StatLink  <https://stat.link/r8aw0p>

In the case of France, data from the 2017 census show that, overall, newly arrived immigrants were less concentrated among the top immigrant-hosting departments than those who had been living in France for several years (Table 5.6). However, about 11% of immigrants aged 20-69 arrived in the previous year lived in Paris, which is a much higher share than among all immigrants (7.4%). Newly arrived EU-born immigrants were particularly overrepresented (11.7% vs 6.7%) in the capital, while North African and Sub-Saharan African immigrants were underrepresented. Among all immigrants aged 20-69, the department hosting the largest share of North African and Sub-Saharan African immigrants was Seine-Saint-Denis, in Paris' suburbs, with respectively 7.5% and 11.1%. However, the share of newly arrived immigrants from these two regions living in this department was significantly lower (5.9% for North African immigrants and 6.3% for Sub-Saharan African immigrants).

As in the Canadian case, this raises the question of the source of the difference in location patterns of recent immigrants compared to immigrants arrived earlier. Figure 5.16 provides a comparison of the geographical distribution of three groups of newly arrived immigrants in 2012 and 2017. Although location patterns look broadly similar for both cohorts, there are actually non-negligible differences. For instance, the share of new immigrants from Sub-Saharan Africa settling in Seine-Saint-Denis decreased by 3 percentage points between 2012 and 2017, while the share of North African immigrants increased by


2 percentage points. There was also a significant decline in the share of North African immigrants settling in the Bouches-du-Rhône department. Overall, the concentration of new immigrants' initial locations decreased for the different regions of origin. This shows that, at least in the French case, significant changes in initial location patterns of immigrants across regions can occur, even over a relatively short time.

**Table 5.6. Distribution of newly arrived immigrants across departments in France, by region of origin, 2017 (%)**

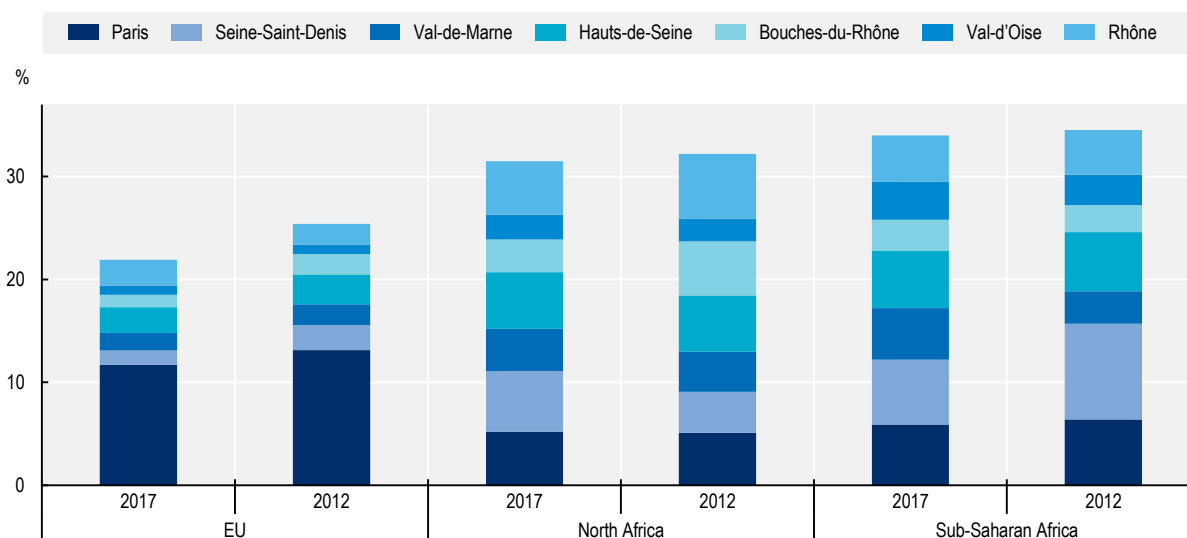
	Newly arrived immigrants				All immigrants				Population
	Total	EU	North Africa	Sub-Saharan Africa	Total	EU	North Africa	Sub-Saharan Africa	Total
Paris (75)	10.9	11.7	5.2	5.9	7.4	6.7	5.5	7.7	3.8
Seine-Saint-Denis (93)	3.5	1.4	5.9	6.3	7.7	4.1	7.5	11.1	2.5
Val-de-Marne (94)	3.0	1.7	4.1	5.0	4.8	3.6	4.3	6.8	2.3
Hauts-de-Seine (92)	4.4	2.5	5.5	5.6	4.8	3.5	4.9	5.9	2.6
Bouches-du-Rhône (13)	2.3	1.2	3.2	3.0	4.2	2.4	6.9	3.4	3.1
Val-d'Oise (95)	2.1	0.9	2.4	3.7	3.9	2.5	3.6	5.2	1.9
Rhône (69)	3.7	2.5	5.2	4.5	3.6	2.6	4.5	3.2	2.8
Other departments	70.2	78.2	68.7	66.1	63.7	74.7	62.9	56.8	81.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note: Immigrants aged 20-69. Newly arrived immigrants are those who were living abroad on 1 January 2016.

Source: INSEE, Census 2017; OECD Secretariat calculations.

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**Figure 5.16. Distribution of newly arrived immigrants across departments in France, by region of origin, 2012-17**



Note: Immigrants aged 20-69. Newly arrived immigrants in 2017 are those who were living abroad on 1 January 2016. Newly arrived immigrants in 2012 are those who were living abroad on 1 January 2011. The category "Other departments" is not shown.

Source: INSEE, Census 2012 and 2017; OECD Secretariat calculations.

StatLink  <https://stat.link/rquib4>

## **Residential mobility of immigrants**

### *Key findings from the literature*

As is the case for the issue of immigrants' initial location, there is substantial evidence on immigrants' residential mobility in the United States. Bartel (1989<sup>[38]</sup>) provided an analysis of subsequent internal migration of immigrants arrived in the mid-1960s to mid-1970s and showed that better educated and younger immigrants were more likely to relocate, probably because they not only had more opportunities in the first place, but were also better able to identify places with better opportunities and bear the cost of moving. Kritz and Nogle (1994<sup>[39]</sup>), also using the 1980 census data, found that intrastate and interstate migration differed across immigrant groups. In addition, they noted that Mexican immigrants were less likely to migrate both within and across states than the native-born and almost all other foreign-born groups, even after controlling for individual socio-demographic characteristics. They argued that the higher share of irregular migrants in this group could help explain this result, as a change of residence increases the risk of detection by the authorities. Using census data for 1980 and 1990, Funkhouser (2000<sup>[39]</sup>) highlighted immigrants' tendency to move away from areas with a high share of immigrants from their own country: over time, they were less likely to live in such areas. The study showed that this relocation process could occur quite late after arrival in the country.

Evidence on mobility patterns of immigrants within cities in the United States is sparser than across states or cities. An analysis of survey data showed that Latino residential mobility into neighbourhoods with a greater percentage of non-Hispanic whites (i.e. Anglos) increased with human and financial capital and English-language use. There were, however, variations in the residential mobility process among Latinos: for example, Puerto Ricans were less likely than Mexicans to move to neighbourhoods with relatively large Anglo populations, while among Puerto Ricans and Cubans, darker skin colour inhibited mobility into Anglo neighbourhoods (South, Crowder and Chavez, 2005<sup>[40]</sup>).

For Canada, an analysis of interprovincial mobility of immigrants in the early 1980s showed that, just like the native-born, the foreign-born were attracted to destinations with high employment growth rates, high-income levels, and a similar cultural makeup and were dissuaded by distance, coldness, and high unemployment levels (Newbold, 1996<sup>[41]</sup>).

For the case of Sweden, Boman (2011<sup>[42]</sup>) compared migratory behaviour of native Swedes and immigrants following job displacement. The migratory propensity of the foreign-born was not significantly different from that of native Swedes when regional and individual characteristics were controlled for. In addition, a significant locking-in effect of areas with immigrant residential segregation on non-Nordic immigrants and a strong negative effect of living in a major city was found. The latter effect was also found to be greater for immigrants than for native Swedes. When controlling for these two additional effects, immigrants were in fact found to be more mobile than native Swedes. Another analysis focused on location choices of a sample of immigrants from Iran and Turkey living in Sweden between 1968 and 2001, investigating whether region of origin was a better predictor of internal migration decisions than was country of origin (Aradhya et al., 2017<sup>[43]</sup>). The results indicated that individuals were less likely to leave municipalities with a large presence of other immigrants from the same region of origin, but were more likely to leave municipalities with a large number of individuals from their country of origin.

In the case of Spain, Bosch, Carnero and Farré (2015<sup>[44]</sup>) conducted a field experiment to investigate the role of discrimination in the rental market as an obstacle to the residential mobility of immigrants and as a driver of residential segregation observed in large cities. They found that immigrants face a differential treatment when trying to rent an apartment. Results also indicate that this negative treatment varies considerably with the share of immigrants in the area. In neighbourhoods with a scarce presence of immigrants, the response rate is 30 percentage points lower for immigrants than for natives, while this differential decays towards zero as the immigration share increases.

Several papers have also looked at the location choices of immigrants in France. Rathelot and Safi (2014<sup>[45]</sup>) used longitudinal data to measure mobility across municipalities over time and estimated the effect of the initial municipality's composition in terms of origin countries of immigrants and their direct descendants on the probability of moving out. Results indicated that the presence of persons from the same parental origin in their residential location hindered immigrants' outward mobility. A similar analysis using panel data for the period 1990-2013 at the neighbourhood level found a significant negative effect of the neighbourhood share of persons from the same parental origin on moving out among immigrants. In contrast, the French majority were more likely to exit areas with increasing shares of immigrants, except in models controlling for unobserved neighbourhood characteristics (McAvay, 2018<sup>[46]</sup>). Another study investigated how the supply of public housing during the 1970s influenced the initial location choices of immigrant families across local labour markets. Cities with more public housing attracted a significantly larger number of immigrants with children; although housing conditions were on average better in these locations, employment prospects were less favourable (Verdugo, 2016<sup>[47]</sup>).

In the case of Germany, Tanis (2020<sup>[33]</sup>) showed that for EU immigrants arrived relatively recently, there was an extremely high positive correlation between ethnic concentration/immigrant density and regional attractiveness. As a corollary, a higher concentration of foreign nationals in the initial location limited the probability of relocation.

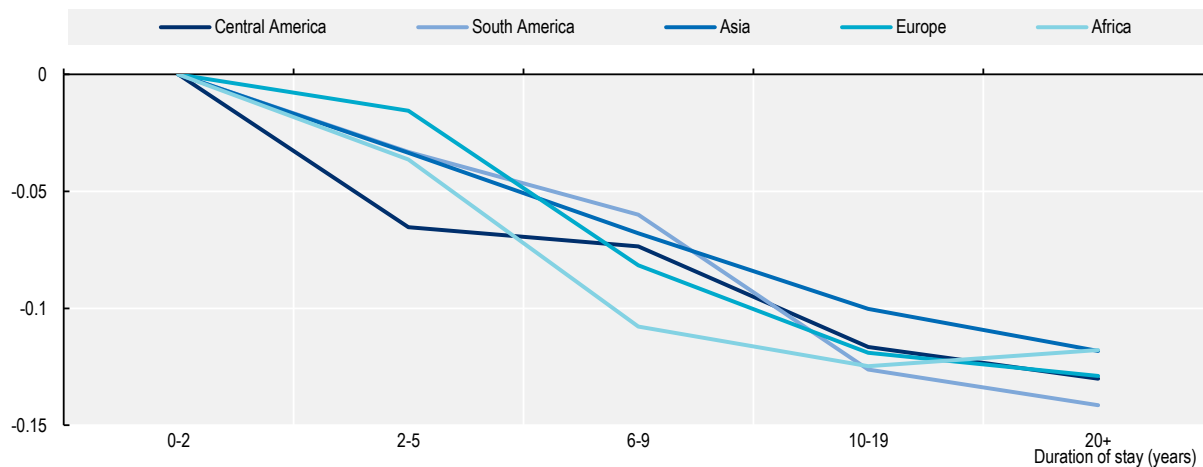
#### *New empirical evidence on the residential mobility of immigrants*

For the United States, data from the American Community Survey show that average mobility rates are relatively homogenous across immigrants from different origins, as well as compared with the native-born. In 2019, 12% of immigrants had changed house compared to the previous year, including within the same neighbourhood, and about 2% had moved to a different state. For the native-born, this was a little bit higher, with 13% changing house and 2.3% moving to another state. However, among immigrants, duration of stay in the United States was a key differentiating parameter: 27% of immigrants who had been in the country for two years or less had moved in the previous year, while this share was less than 9% for immigrants who had been in the country for at least 20 years. The same pattern was found for interstate mobility, with 6% for recently arrived immigrants and 1.4% for those in the country for 20 years or more. The region of origin also mattered; for instance, immigrants from Central America were less likely to move than African immigrants (10% vs 16%, respectively, for any mobility).

A first key question regarding mobility patterns of immigrants is whether they are more prone to leave areas with a high concentration of immigrants from the same region of origin. A multivariate analysis showed that, for immigrants from Central America, Asia and Europe, there was a significant negative correlation between the local own-group share and the probability of leaving one's neighbourhood, while there was no such correlation for South American or African immigrants. For the former groups, mobility is slowed down by the presence of a higher share of immigrants from the same region.


As expected, duration of stay in the United States is a strong predictor of internal mobility: recently arrived immigrants are significantly more mobile than those who have been in the country for several years, this being true across origin groups (Figure 5.17).

**Figure 5.17. Correlation between duration of stay in the country and the probability of internal mobility, by region of birth, the United States, 2018-19**



Note: Coefficients for duration of stay in the United States from a linear probability model of internal mobility for immigrants. The model includes the following covariates: age, gender, duration of stay, marital status, number of children, educational attainment, population density in area of origin, share of own-group and share of other immigrants in area of origin, unemployment rate.

Source: ACS 2018-19; OECD Secretariat calculations.

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Immigrants changing residence witness a decline in the share of migrants from their own region of origin. On average, the raw difference is 0.2 percentage point (the average own-group share being 9.4%). However, regression results show that there is substantial heterogeneity across immigrant groups. For Central American immigrants, for instance, changing residence is associated with a decrease of the local own-group share of about 4 percentage points if they lived in an area with an own-group share of 20%, while mobility may be associated with an increase in the own-group share for those living in areas with few immigrants from the same origin. Similarly, among Asian immigrants, mobility is associated with a decrease of the own-group share if the previous area of residence had a relatively high share of Asian immigrants.

## **Residential mobility of the native-born**

### *Key findings from the literature*

A prolific line of investigation has examined “native flight”, i.e. how the mobility behaviour of the native-born affect residential segregation patterns within cities. Although not addressing directly this issue, but rather the question of “white flight”, Card, Mas and Rothstein (2008<sub>[48]</sub>) used regression discontinuity methods and census tract data from 1970 through 2000 to test for discontinuities in the dynamics of neighbourhood racial composition in the United States. They found strong evidence that white population flows exhibited tipping-like behaviour in most cities – i.e. an acceleration of outflows of whites when their share in the population dropped below a certain threshold – with a distribution of tipping points ranging from 5% to 20% minority share. Using longitudinal data, Hall and Crowder (2014<sub>[49]</sub>) examined how the migration behaviours of native-born whites and blacks were related to local immigrant concentrations, and how this relationship varied across traditional and non-traditional metropolitan gateways. Results indicated that the likelihood of neighbourhood out-migration among natives increased as the local immigrant population grew, and that their neighbourhood of destination had substantially smaller immigrant concentrations than the ones they left. They found that this tendency to move away from immigrants was particularly pronounced for both black and white natives living in metropolitan areas developing into a major gateway



– that is, a community that has experienced rapid recent growth in foreign-born populations. Qualitatively similar results were also obtained by Saiz and Wachter (2011<sup>[50]</sup>) and Logan and Zhang (2010<sup>[51]</sup>).

At the neighbourhood level, Bråmås (2006<sup>[52]</sup>) investigated whether mobility patterns of the native-born had played a role in the increased concentration of immigrants that has affected many residential areas in Swedish cities during the 1990s. The results indicated that ‘Swedish avoidance’, i.e. low in-migration rates among Swedes, rather than ‘Swedish flight’, i.e. high out-migration rates, had been the main driving-force behind the production and reproduction of immigrant concentration areas. A similar result was obtained by Müller, Grund and Koskinen (2018<sup>[53]</sup>), using Swedish register data on residential moves within Stockholm municipality between 1990 and 2003, who identified ‘ethnic avoidance’ by Swedes as the main driver of segregation in the country. A similar result was obtained by Andersen (2017<sup>[54]</sup>) in the case of Denmark for the period 1985-2008.

Similarly, for the Netherlands, Bolt and van Kempen (2010<sup>[55]</sup>) also suggested that, compared with immigrants, the native Dutch were more likely to move out of neighbourhoods with high concentration of immigrants and less likely to move in such neighbourhoods. In the French context, Rathelot and Safi (2014<sup>[45]</sup>) found no evidence of “native flight” but they showed that the native-born avoided moving into localities with a higher share of immigrants.

The phenomenon regarding “native flight” is not only observed with respect to residential segregation but also regarding school segregation. Especially better-off parents tend to have a preference to remain in their own group and select schools that are deemed to match their socio-economic background. As with respect to residential sorting patterns, most empirical literature with respect to sorting in schools has focused on racial rather than migrant sorting, especially in the United States (Lankford, Lee and Wyckoff, 1995<sup>[56]</sup>; Fairlie and Resch, 2002<sup>[57]</sup>). Rangvid (2010<sup>[58]</sup>) and Andersson, Malmberg and Östh (2012<sup>[59]</sup>) find evidence of “native flight” in schools in Denmark and Sweden once the share of immigrants in a school exceeds a certain threshold. For Spain, Farre, Ortega and Tanaka (2018<sup>[60]</sup>) also find evidence of “native flight” to private schools as a response to higher immigrant densities in public schools. Cascio and Lewis (2012<sup>[61]</sup>) also emphasised the role of school choice as a driver of “native flight”, examining whether low-skilled immigration to the United States had contributed to immigrants’ residential isolation by reducing native demand for public schools. According to their estimates, between 1970 and 2000, the average California school district lost more than 14 non-Hispanic households with children to other districts in its metropolitan area for every 10 additional households enrolling low-English Hispanics in its public schools.

A common conclusion of these studies is that school choice policy and parental preferences are important determinants of school segregation. There is also evidence that school district boundaries impact directly on residential segregation. For example, Kauppinen, van Ham and Bernelius (2021<sup>[62]</sup>) show that migrant segregation is stronger among households with children than among childless households and the residential mobility of higher-income Finnish-origin households with children is particularly affected by the school catchment area boundaries.

### *New empirical evidence on the residential mobility of the native-born*

In the United States, native-born who have changed residence, will on average live in areas where the share of immigrants is lower. On average, without controlling for covariates, the difference in the foreign-born share between their areas of origin and destination is 0.4 percentage point (the average share of foreign-born across areas being 13.5%). A multivariate analysis, controlling for individual characteristics and contextual factors, shows that the decrease in the local share of immigrants following a residential mobility can reach 15 to 20 percentage points for those who lived in areas where the immigrant share was above 30%.

## How does residential segregation affect immigrant integration?

The relationship between immigrants' spatial concentration and their integration is disputed. Concentration can provide benefits, especially for newly arrived immigrants in search for a job or an accommodation, but it may also harm integration in the medium- and long-term because of fewer contacts with the native-born. Although many theoretical arguments have been advanced, the actual balance of effects can only be determined through empirical analyses, and is bound to be heterogeneous depending on the context and the characteristics of the immigrants themselves.

For some analysts, an excessive concentration of immigrants in specific areas or neighbourhoods is a manifestation of a lack of integration in the host country (Massey and Denton, 1985<sup>[63]</sup>; Alba et al., 1999<sup>[64]</sup>). Social interactions with the native-born, as well as with immigrants from other countries, will indeed be more limited if most immigrants live in homogenous communities of the same origin. High concentration may hamper full participation in society, reduce exposure to the host country language, and lower the integration prospects of immigrants and their children. It may also bring about negative externalities for the host society as a whole. These risks may be exacerbated when immigrants are concentrated in areas with poor infrastructure, insufficient access to public services and markets, substandard housing, and overall inferior amenities, which is relatively common across OECD countries.

This perspective on immigrants' residential segregation mostly considers that immigrants location choice is constrained, at least initially. This can happen for financial reasons if immigrants can only afford to live in such areas, because of discrimination on the housing market, or because of policies which regulate the spatial placement of certain categories of newly arrived immigrants.

A different view of residential segregation notes that immigrants themselves might choose to live in areas with immigrant residential segregation because this provides them with a number of advantages (Bolt, Sule Özüekren and Phillips, 2010<sup>[65]</sup>). For example, immigrants can derive benefits from spatial proximity with persons from the same origin country to find housing or jobs more easily, especially upon arrival. A close-knit community of origin can also reduce the psychological cost of being far away from relatives in a foreign environment. For immigrant business owners, there may also be economic benefits to evolving in an environment with high demand for specific "ethnic goods", and consumers also benefit from higher quality and lower price in this context. Finally, a community having reached a critical mass can also get political advantages through political influence on local governments and other local actors.

From an empirical perspective, it may however be difficult to establish whether immigrants' residential segregation has a detrimental or positive impact on their integration. First, there is no reason to believe a priori that the different mechanisms exposed above are mutually exclusive: residential segregation may bring benefits to some immigrants in some contexts (e.g. city, period, cohort or age), and be detrimental to other immigrants – or the same – in other situations. Second, identifying a – positive or negative – causal impact of residential segregation on a given integration outcome in a given country does not imply that this finding can be generalised to other countries, or to other dimensions of integration. It is indeed likely that, for a given level of residential segregation, urban and integration policies, as well as the national context more broadly, are strong factors influencing immigrants' opportunities and outcomes. Third, whether an estimated correlation between residential segregation and integration can be given a causal interpretation depends on the nature of selection processes and whether they are properly accounted for. If immigrants are negatively selected (self-selected or not) in segregated areas, those with ex ante low integration prospects end up living in neighbourhoods with a high share of immigrants from the same origin – and potentially poor integration perspectives as well. In this case, a negative correlation between segregation and integration may actually hide a positive causal impact. On the other hand, if there is positive selection, immigrants with good integration prospects are attracted to segregated neighbourhoods, which may induce an unwarranted positive estimate of the impact of residential segregation on integration outcomes.

Just as there is no a priori reason to believe that the causal impact is always positive or always negative, different selection patterns may exist in different contexts and for different categories of immigrants. In this context, any appraisal of the influence of residential segregation on integration outcomes must be done very cautiously.

## **Employment outcomes**

### *Key findings from the literature*

Employment is recognised as one of the most important indicators of immigrants' socio-economic integration. A key question raised in relation with the spatial concentration of immigrants is whether it improves or hinders their employment prospects.

As noted above, origin-related social networks can help immigrants find employment (Giulietti, Schluter and Wahba, 2013<sup>[66]</sup>). This mechanism is expected to be particularly important for recent humanitarian immigrants because they are more likely to lack country-specific knowledge of the functioning of the labour market (e.g. which firms or sectors are more likely to hire). They may also have difficulties getting their formal skills or work experience recognised in the host country, or they may not yet speak the language well enough to interact with all employers. Although these origin-related social networks no longer necessarily require spatial proximity to operate, it is likely that it still plays a role in their effectiveness.

Conversely, one can expect that a high spatial concentration of immigrants from the same origin, especially if they are not highly educated and if access to transportation is problematic, entail high job search costs and may lead to higher than average levels of unemployment (Dujardin, Selod and Thomas, 2008<sup>[67]</sup>). In addition, in a local environment where unemployment is high, the quality of the jobs referral network for new labour market entrants will be lower.

Thanks in part to the availability of high quality register data, which allow to track individuals' location and employment outcomes over time, several studies have focused on Nordic countries. An early analysis focused on refugees and used the dispersal policy put in place by the Swedish Government between 1985 and 1991 as an exogenous source of variation in their initial location (Edin, Fredriksson and Aslund, 2003<sup>[68]</sup>). When accounting for the endogeneity of residential choice, the authors found that earnings rose with local concentration of immigrants from the same origin countries and their descendants for less educated immigrants. They also found that the positive effects of high immigrant concentration clusters were magnified by their "quality": immigrants in origin-related groups with high earnings or high self-employment rates had higher returns to living in such a cluster. However, immigrants belonging to an origin group with less than average earnings may actually lose from residing in this area.

In the same spirit, Damm (2009<sup>[69]</sup>) examined the effects of the concentration of immigrants from the same origin and their descendants on labour market outcomes of refugees in Denmark for the period 1984-2000. They accounted for ability sorting into areas with immigrant residential segregation by exploiting the Danish spatial dispersal policy under which refugees were randomly dispersed across locations. They found strong evidence of self-selection of refugees with unfavourable unobserved characteristics into neighbourhoods with high concentration of immigrants from the same origin and their descendants. In addition, they found that an increase in such concentration increased earnings, irrespective of skill level. Their results were consistent with the explanation that networks of immigrants from the same origin and their descendants disseminate job information, increasing the job-worker match quality and thereby the hourly wage rate.

Another study on Sweden analysed how annual income among several immigrant groups in Stockholm, Gothenburg and Malmö during the period 1991-2006 varied according to the share of immigrants from the same origin at the neighbourhood level (Andersson, Musterd and Galster, 2014<sup>[70]</sup>). Overall, the authors found that immigrants gain if they reside in neighbourhoods with higher shares of immigrants from the same origin and their descendants. They found that immigrant men tended to gain more than women, and

that this impact depended on neighbourhoods' trajectory of the share of immigrants from the same origin and their descendants, with more positive results for immigrants living in neighbourhoods where the share of persons from the same origin (including descendants) stayed the same or increased.

By focusing on the level of affluence of neighbourhoods, Wimark, Haandrikman and Nielsen (2019<sup>[71]</sup>) provided a complementary perspective on how location affects labour market outcomes of immigrants in Sweden. Using longitudinal data, the authors looked at the "port-of-entry" effect and showed that immigrants who lived in deprived areas upon arrival in the country had lower employment probability several years later. Interestingly, they also found that employment prospects were much better for immigrants who left their initial neighbourhood of residence. However, this study does not provide specific results regarding the impact of living in neighbourhoods with a high share of immigrants from the same origin. Andersson, Musterd and Galster (2019<sup>[72]</sup>) also discussed the impact of "port-of-entry" neighbourhoods on later employment outcomes, focusing on refugees from Iran, Iraq and Somalia arrived between 1995 and 2004. They found a negative impact of the share of immigrants from the same origin and their descendants in the initial neighbourhood of residence for women on employment five years later, but no significant effect for men. The effect was concentrated on women who had lived in neighbourhoods with the lowest employment rates among immigrants from the same origin and their descendants.

Also looking at employment prospects of refugees, Vogiazides and Mondani (2020<sup>[73]</sup>) analysed the impact of their residential context over a longer period, assessing contemporaneous neighbourhood effects. For refugee men and women who immigrated to Sweden between 2000 and 2009, they found a significant negative effect of the neighbourhood share of non-Western migrants on entry into employment, but did not examine specifically the role of immigrants from the same origin and their descendants. They also found stark differences between regions, with refugees living in Stockholm having much better employment prospects than elsewhere in the country.

Analysing employment outcomes of Iraqi, Iranian, Turkish, and Somalian immigrants for 2000-10 living in Stockholm, Göteborg, and Malmö, Kadarik et al. (2021<sup>[74]</sup>) introduced an important distinction in neighbourhood effects by looking at the impact of the local share of employed persons from the same origin country, while also controlling for the local share of persons from the same origin country and the local employment rate. For all groups of immigrants, they found a significant positive effect of the share of employed persons from the same origin country on employment probability. This result highlights the key role of the quality of the local job information network for immigrants' integration prospects.

Several studies on the effect of local context on immigrants' employment in the United States have been carried out. Cutler, Glaeser and Vigdor (2008<sup>[75]</sup>) investigated the impact of local immigrant concentration on earnings and inactivity of young immigrants using data from the 1990 census. The authors attempted to deal with endogenous selection of immigrants into areas with immigrant residential segregation through various approaches, including instrumental variables, and found that selection into such neighbourhoods was generally negative. Correcting for this selection produced positive mean effects of segregation, and a positive correlation between group average human capital and the impact of segregation.

Zhu, Liu and Painter (2014<sup>[76]</sup>) analysed the impact of segregation on labour market outcomes among Latino immigrants in the United States. They used data from the 2000 census and the 2008-10 American Community Survey (ACS) on four metro areas (Atlanta, Washington, D.C., Chicago, and Los Angeles) to examine three labour market outcomes: employment probability, wages, and commuting time. Their results demonstrated that residence in an ethnic community increased the probability of finding work after the recession, albeit with longer commutes. By contrast, in estimates drawn from 2000 Census data, residents of ethnic communities in central cities, inner ring suburbs, or outer ring suburbs fared worse in the labour market than did residents outside those communities. This pattern of results was stronger for new immigrants.

In the case of Australia, Kalfa and Piracha (2018<sup>[77]</sup>) assessed how social contacts and ethnic concentration affected the education-occupation mismatch of natives and immigrants. Using data from the Household

Income and Labour Dynamics in Australia (HILDA) for the period 2001-11, they showed that social capital exacerbated the incidence of over-education, particularly for women. For the foreign-born, ethnic concentration significantly increased the incidence of over-education.

A recent study investigated how networks of immigrants from the same origin and their descendants affect the economic success of immigrants in Germany with a dynamic perspective (Battisti, Peri and Romiti, 2021<sup>[78]</sup>). Using longitudinal data of immigrants and including a large set of fixed effects and pre-migration controls to address the possible endogeneity of initial location, they found that immigrants in districts with larger origin-related networks were more likely to be employed soon after arrival. They also found that this advantage faded after four years, as migrants located in places with smaller origin-related networks caught up due to greater human capital investments. These effects appeared stronger for lower-skilled immigrants, as well as for refugees and Ethnic Germans (Aussiedler and Spätaussiedler).

#### *New evidence on the effect of concentration on employment in the United States*

Using data from the 2019 American Community Survey, one can assess the correlation between the local share of an immigrant group and employment outcomes. Although the objective is to get as close as possible to a causal estimate, this is by definition challenging with cross-sectional observational data.

When considering the full sample of immigrants aged 25 to 64 living in metropolitan areas, beyond the expected positive impact of duration of stay on employment probability, and negative impact of the local unemployment rate, there is a significant positive correlation with the local share of immigrants from the same origin (Table 5.7). A 10% increase in own-group share in the PUMA is associated with a 1.4 percentage point increase in employment probability for newly arrived immigrants. This effect, however, declines with duration of stay in the United States and becomes null after about 20 years in the country.

**Table 5.7. Coefficients from regressions of employment among immigrants on the local share of own group, by region of birth, the United States, 2019**

	Full sample	Excluding household heads and spouses	Central America	South America	Asia	Europe	Africa
Duration of stay (years)	0.011	0.009	0.008	0.013	0.015	0.010	0.015
Share of own-group	0.140	0.107	0.105	-0.039 (ns)	0.072 (ns)	0.169	-0.374 (ns)
Share of own-group x duration of stay	-0.007	-0.004	-0.005	-0.004 (ns)	-0.005	-0.008 (ns)	0.011 (ns)
Share of other immigrants	0.034	0.025 (ns)	0.032 (ns)	0.151	0.047 (ns)	0.043 (ns)	-0.047 (ns)
Unemployment rate	-0.604	-0.945	-0.795	-0.446	-0.479	-0.364	-0.067 (ns)
Number of observations	255 019	49 270	101 519	19 668	88 958	33 359	11 515

Note: Each column shows coefficients from a linear probability model of employment among immigrants aged 25-64 on the following variables: duration of stay in the United States (and its square); share of own group in the PUMA of residence, interacted with duration of stay; share of other immigrant groups in the PUMA of residence; age; sex; educational attainment; unemployment rate in the PUMA of residence. The model is estimated for residents of metropolitan areas only and includes fixed effects for metropolitan areas.

Source: ACS 2019; OECD Secretariat calculations.

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In order to attenuate the bias due to sorting, a sub-sample excluding household heads and spouses is analysed. It can indeed be expected that individuals in this group – mostly children of the household head or other relatives – have less decision power regarding the location of the household, which is therefore more exogenous to their employment situation than it is for the main decision makers. The results are qualitatively similar. Although the coefficients of the own-group share and its interaction with duration of

stay are now smaller, they remain significant. This indicates that sorting partly explains the correlation between the own-group share and employment probability, but probably not all of it.

## **Language proficiency**

### *Key findings from the literature*

Upon arrival, learning the language of the destination country is a priority task for new immigrants if they are not already proficient. A good command of the host country language is indeed very often a necessary condition, although not sufficient, for a smooth social and economic integration (Chiswick and Miller, 2015<sup>[79]</sup>). Beyond language courses, day-to-day interactions with native speakers and, more generally, exposure to written and oral communication, can certainly accelerate and improve learning. In immigrant neighbourhoods where a large share of the population is from the same origin country, it is likely that exposure to the host country language will be on average lower.

It is also possible that immigrants who are less willing or less able to learn the host country language sort into neighbourhoods where they will have more interactions in their own language. Since these two processes are not mutually exclusive and can be self-reinforcing, a correlation between residence in a neighbourhood with many immigrants from the same origin and host-country language proficiency among immigrants is not necessarily causal. Although many correlation studies have been carried out in a number of countries, only a couple have attempted to assess the extent of sorting or to estimate causal effects.

Studying the case of Mexican immigrants to the United States, Bauer, Epstein and Gang (2005<sup>[30]</sup>) showed that location decisions were conditioned on linguistic ability. Immigrants with limited English proficiency directed themselves disproportionately to destinations with substantial numbers of Mexicans, thus providing an environment where they could get by in Spanish, whereas those with English ability were more likely to go to places with small immigrant populations. This means that language ability is endogenous to the location decision. Studies showing that residence in areas with immigrant concentration retards language assimilation are therefore likely to overestimate the effect of residential segregation.

To try to identify causal neighbourhood effects on language proficiency, one approach used in the literature is to analyse the correlation between neighbourhood concentration and language fluency by duration of stay. If the effect of minority concentration on language is created primarily through learning, then the interaction between minority concentration and years of residence should contribute to explaining language proficiency. If sorting is the only relevant mechanism, then this interaction should not be significant.

Using data from the 1990 census of the United States, Lazear (1999<sup>[80]</sup>) showed that there was a significant negative effect of county-level share of immigrants on fluency in English, a positive effect of duration of stay in the country, but that the interaction was not significant. Sorting was therefore the predominant mechanism explaining lower fluency in areas with a higher share of immigrants. Analysing the case of the United Kingdom in 1993-94, Dustmann and Van Soest (2004<sup>[81]</sup>) found similar results on the impact of ward-level concentration of Indian-background immigrants on fluency in English: shortly after entry, immigrants in low minority concentration areas spoke better English, a finding that can be explained only by self-selection.

To study neighbourhood effects on language learning among immigrants, Danzer and Yaman (2016<sup>[82]</sup>) used a quasi-experimental approach on guest-workers in Germany during the 1960s and early 1970s that enable them to avoid the effect of sorting. The authors argued that, given the placement procedure, the initial job location of the guest workers was exogenous, which implies that the result can be attributed to differences in contact rates with natives, and not by differences in the willingness to integrate. They found a small negative effect from immigrants from the same origin concentration on language fluency which is persistent across various immigrant subgroups.

*New evidence on the effect of concentration on language proficiency in selected EU countries and the United States*

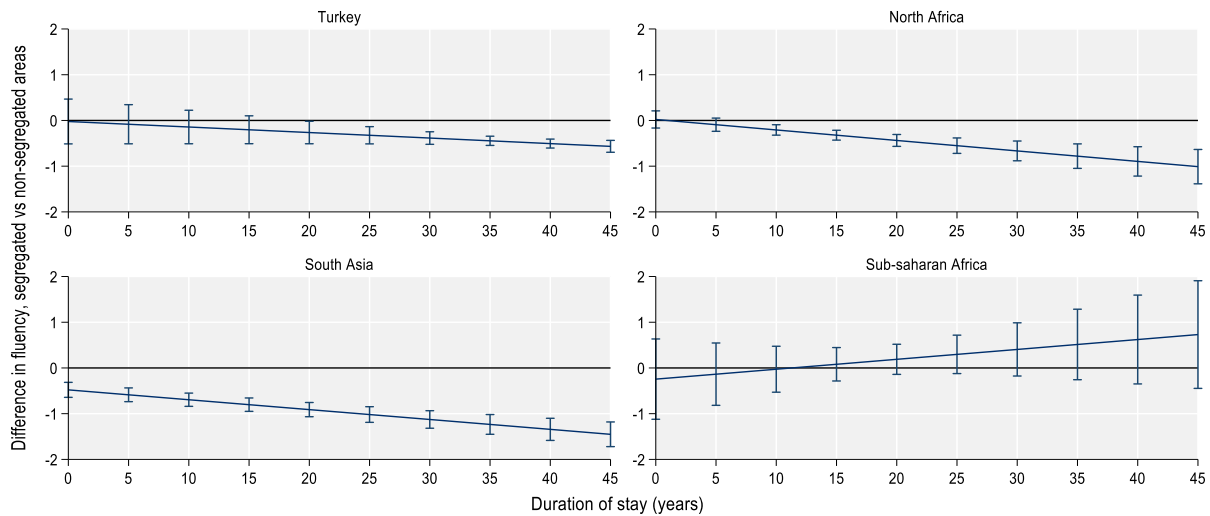
Analysing data from the EU-MIDIS II survey (which covers a dozen of EU countries in 2016) provides interesting insights on the potential influence of neighbourhood of residence on language fluency. Although the data do not permit to identify neighbourhoods where immigrants live, respondents were asked to assess the share of people from the same origin as themselves in their neighbourhood. In addition, respondents also assessed their level of proficiency in the host-country language.

An empirical model of language proficiency was estimated, which included the self-assessed level of immigrant concentration and duration of stay in the host country, as well as their interaction, to capture potential sorting and learning effects. As expected, fluency in the host country language is higher for all immigrants when they have lived in the country for a longer time. However, this progress is slower for immigrants living in neighbourhoods with a high concentration of people from the same background. Partial results showing this effect are presented in Figure 5.18. That notwithstanding, these results could also be due to a selective crowding out effect through which those who improve their language proficiency have a higher propensity to move to another part of the country, leaving behind those with more difficulties.

However, there is no evidence of sorting for recently arrived Turkish and North African immigrants: they have similar language proficiency whether they live in high or low concentration neighbourhoods. On the contrary, recent South Asian immigrants living in high concentration neighbourhoods are less proficient than those living in low concentration areas, which indicates some self-selection for this group. For those three groups of immigrants, there is a tendency towards an increasing fluency gap between the two types of neighbourhoods with duration of stay in the host country. This is not the case, however, for Sub-Saharan African immigrants, for whom there is no significant difference in proficiency across neighbourhood context at any stage. Overall, apart for Sub-Saharan African immigrants, those results suggest that there is a negative effect of neighbourhood level own group concentration on host-country language learning.

A similar analysis can be carried out for the United States, using the American Community Survey, which includes a question about proficiency in English. Among immigrants who arrived in the United States at most one year before the survey – and who have not changed location – the share who speak English well or very well varies drastically by region of birth: African and European immigrants are those who are more likely to be proficient in English (86% and 83% respectively), followed by Asian immigrants (76%). South American and Central American immigrants are those who exhibit the lowest levels of proficiency, with only 53% and 44% of them speaking English well upon arrival (Table 5.8).

**Figure 5.18. Difference in predicted host-language fluency according to residence in high-concentration vs low-concentration neighbourhoods, by duration of stay, for immigrants born in Turkey, North Africa, South Asia and Sub-Saharan Africa (selected European countries, 2016)**



Note: Differences in predicted host-language proficiency estimated from a model with the following covariates: high vs low concentration of immigrants at the neighbourhood level (self-assessed); duration of stay and its square; interaction between duration of stay and high-low concentration; region of origin dummies and interactions with the three preceding variables; educational attainment; age group; gender; country of residence. List of countries included: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Italy, the Netherlands, Portugal, Spain, Sweden, the United Kingdom. Sample: Immigrants aged 16 and above (N=10 075). Standard errors clustered at the country level. Vertical bars show 95% confidence intervals.

Source: EU MIDIS II; OECD Secretariat calculations.

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For all groups, there is evidence that the least proficient in English choose to live in areas where the share of their own group in the local population is higher. For example, among Central American immigrants, 56% of those who live in areas with relatively low share of other Central Americans (first quartile) speak English well, while this share is only 29% in areas with the highest own group concentration (fourth quartile). While this gap is the highest for Central Americans, it is observed for all immigrant groups, which confirms the results obtained by Bauer, Epstein and Gang (2005<sub>[30]</sub>).

**Table 5.8. Share of newly arrived immigrants speaking English well or very well, by region of birth and quartile of own group concentration in PUMA, the United States, 2019 (%)**

	Central America	South America	Asia	Europe	Africa
1 <sup>st</sup> quartile	56.1	59.0	83.7	91.1	90.4
2 <sup>nd</sup> quartile	41.1	63.0	79.8	85.9	92.5
3 <sup>rd</sup> quartile	44.2	46.4	70.5	81.7	88.8
4 <sup>th</sup> quartile	29.1	47.2	65.6	76.0	77.0
Total	43.5	53.2	75.9	83.1	85.6
Gap 4 <sup>th</sup> – 1 <sup>st</sup>	-27.0	-11.8	-18.1	-15.1	-13.4

Note: Recent immigrants: duration of stay of one year at most and no mobility in the last year.

Source: ACS 2019; OECD Secretariat calculations.

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To complement this finding, an empirical model is estimated to study the relationship between English proficiency and local own-group concentration, taking into account duration of stay in the United States. Results from this model are shown in Table 5.9.

Duration of stay in the United States positively affects English proficiency for all immigrant groups. As expected from the descriptive results discussed above, the coefficient of the own-group share is significantly negative for all immigrant groups, although, after controlling for covariates, it is much larger for European immigrants than for other groups. The model also includes the local share of other immigrant groups. This variable has a significantly negative coefficient for South American, Asian and European immigrants: those settling initially in an area with a high share of immigrants from other regions have on average a lower proficiency.

The interaction between duration of stay in the United States and the own-group share is insignificant for Central and South American immigrants, showing that spatial sorting is the predominant mechanism explaining proficiency among them. On the contrary, this interaction is significant for Asian, European and African immigrants, indicating that learning plays a stronger role for these groups. This coefficient is negative for Asian immigrants: those living in areas with a high share of Asian immigrants will tend to learn English more slowly than those living in areas with a lower own-group share. This is similar to the result obtained for Turkish, North African and South Asian immigrants in European countries. However, for European and African immigrants in the United States, the sign of the interaction indicates positive neighbourhood effects: those living in areas with a higher own-group share tend to learn English faster. Finally, the interaction between the local share of other immigrants and duration of stay is only significant for Central American immigrants, which also point to a form of positive externalities: Central American immigrants living in areas where other immigrant groups represent a higher share of the population tend to learn English faster. For other immigrant groups, it makes no difference.

**Table 5.9. Coefficients from regressions of English proficiency among immigrants on the local share of own group, by region of birth, the United States, 2019**

	Central America	South America	Asia	Europe	Africa
Duration of stay in years	0.017	0.021	0.009	0.004	0.008
Share of own-group	-0.407	-0.193	-0.224	-1.599	-0.575
Share of own-group x duration of stay	0.000 (ns)	-0.003 (ns)	-0.002	0.021	0.027
Share of other groups	0.640 (ns)	-4.070	-4.330	-2.130	0.680 (ns)
Share of other groups x duration of stay	3.180	-0.270 (ns)	0.300 (ns)	0.030 (ns)	-0.580 (ns)

Note: Each column shows coefficients from a linear probability model of English proficiency among immigrants aged 15-64 on the following variables: duration of stay in the United States (and its square); share of own group in the PUMA of residence, interacted with duration of stay; share of other immigrant groups in the PUMA of residence, interacted with duration of stay; age; sex; educational attainment. (ns) indicates that the coefficient is not significant at 5% level.

Source: ACS 2019; OECD Secretariat calculations.

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### **Housing conditions and access to homeownership**

Housing conditions are a key component of households' well-being, and access to homeownership is often an important step in immigrants' integration process. It is a well-established fact that immigrants have on average much poorer housing conditions and disadvantages on the housing market than the native-born. Migrants' often weaker socio-economic position puts them on a more difficult financial situation on the housing market. This has been exacerbated by the overall rise in rent prices in the last two decades in almost all OECD countries (OECD, 2020<sup>[83]</sup>). As a result, in 2019, almost one in five immigrants in EU countries paid over 40% of their disposal income on rents, which is twice the share among the

native-born. Likewise, OECD-wide, among immigrants, the overcrowding rate is more than twice as high as for native-born (17% against 8%) (OECD/European Union, 2018<sub>[84]</sub>). In parallel in almost two-thirds of OECD countries, home ownership rates for native-born are more than twice as high as for foreign-born (OECD/European Union, 2018<sub>[84]</sub>).

According to data from the EU-MIDIS II survey, in Europe, immigrant households in segregated areas live in accommodations with a similar level of basic facilities equipment, such as tap water, kitchen or bathroom, as immigrant households in non-segregated areas. There is also no significant difference between the two groups of immigrants with respect to housing overcrowding. However, compared to non-segregated areas, accommodations in areas with residential segregation are assessed by interviewers to be in poorer condition, and the local environment is much more frequently characterised by higher levels of noise, pollution and violence. This result holds when segregation is assessed by respondents themselves or by interviewers (Table 5.10).

**Table 5.10. Relationship between indicators of segregation and housing conditions in selected European countries, 2016**

	Respondent: high own-group share	Interviewer: segregated area
Overcrowded housing	-0.004 (ns)	0.01 (ns)
Accommodation in poor condition (itw)	-0.102	-0.189
Lack of tap water	0.004	-0.002 (ns)
Lack of kitchen	0.005 (ns)	0.000 (ns)
Lack of indoor toilet	0.002 (ns)	-0.005 (ns)
Lack of shower / bathroom	0.006	0.001 (ns)
Lack of heating	-0.003 (ns)	-0.002 (ns)
Too dark	-0.002 (ns)	0.009 (ns)
Too noisy	0.063	0.087
Leaking roof or damp walls	0.027 (ns)	0.044
Pollution, grime	0.051	0.069
Crime, violence, vandalism	0.109	0.134

Note: Each cell contains coefficient from separate regressions type of area (dense urban, etc.), immigrant group, foreign-born vs native-born children of immigrants, age, gender, household size. (ns) indicates that the coefficient is not significant at 5% level.

Source: EU-MIDIS II survey; OECD Secretariat calculations.

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In the case of Japan, Korekawa (2021<sub>[25]</sub>) analysed homeownership patterns of Brazilian and Chinese immigrants. The study found that the gap in homeownership rates of high-rise condominiums is almost negligible between Japanese and Chinese citizens, which is attributable to the stronger preference for this type of housing, especially among highly-educated Chinese nationals. However, less-educated Chinese and Brazilians rarely access high-rise condominiums, implying that their chances for home acquisition are generally more constrained than those of Japanese people. The analysis also revealed that home ownership is associated with lower migrant concentration in certain areas and is not affected by duration of stay in Japan.

#### **Box 5.4. Association between residential segregation and values: evidence on gender norms from European OECD countries**

In the EU MIDIS survey, respondents were asked about their views on gender equality through four questions: whether having a job is the best way for a woman to be independent; whether both the husband and wife should contribute to household income; whether men should take as much responsibility as women for the home and children; and whether it is important that both girls and boys stay in education for the same length of time. For each question, respondents could give four possible answers: strongly disagree (1), disagree (2), agree (3), or strongly agree (4). Based on these survey questions, it is possible to build a simple gender equality index ranging from 0 to 1 after rescaling the sum to these four questions. Across respondents (only immigrants or native-born children of immigrants) the average was 0.78 for men and 0.83 for women, indicating that women have more progressive views on gender norms than men do.

There were also some differences based on where people lived: on average, respondents living in self-assessed segregated areas had an index of 0.79, while those living in non-segregated areas had an index of 0.82 (after controlling for basic demographic characteristics), but this gap was in fact only significant among women (0.81 vs 0.84). However, there was no significant correlation between views on gender equality and segregation as assessed by interviewers.

This result points to tentative evidence of a slight difference in views regarding gender equality among immigrant women, depending on whether they say they live in an area with a high share of people from the same immigrant background as themselves.

Source: EU MIDIS II Survey.

#### ***Association with educational outcomes***

In most OECD countries, native-born pupils with immigrant parents perform less well in schools with the highest shares of children of immigrants (Figure 5.19). This penalty extends to more than a year of schooling for children in the highest quartile of concentration in countries such as Austria, Belgium, France, Germany, Greece, the Netherlands, and Sweden. Only part of the penalty is explained by the fact that children of immigrants in such schools tend to have lower-educated parents, and a higher proportion than elsewhere does not speak the host-country language at school.

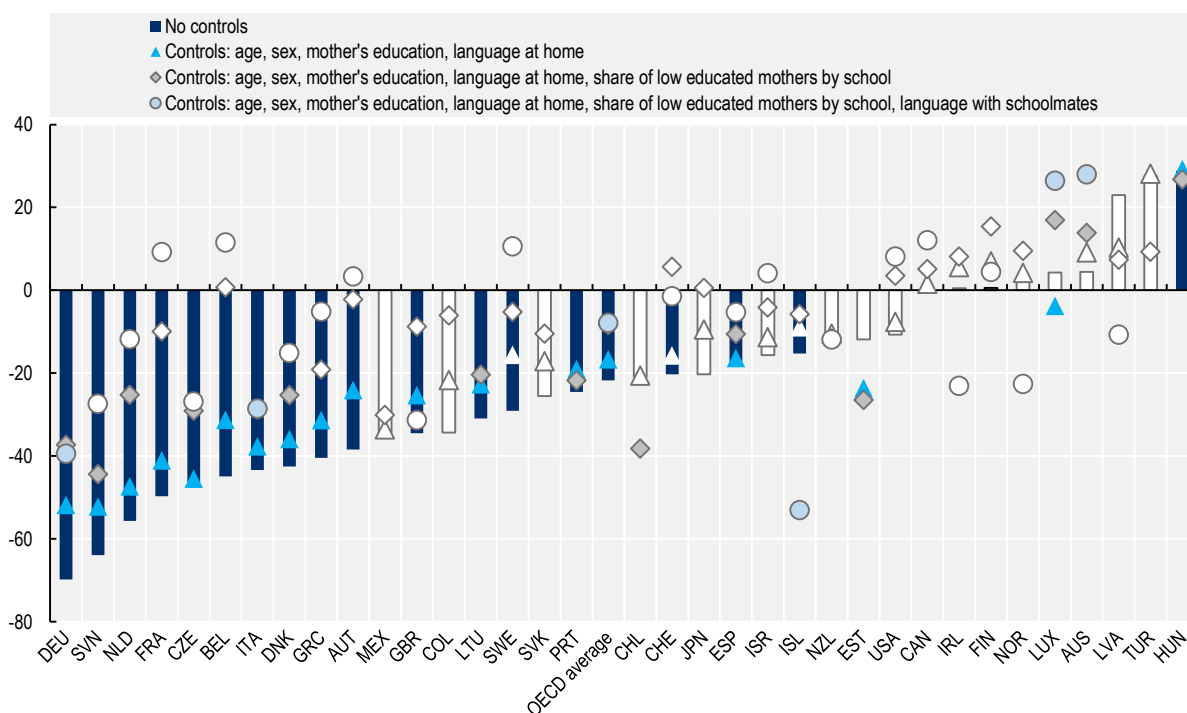
Indeed, in the vast majority of OECD countries, the likelihood of not speaking the host country language at home is closely associated with high concentration of migrant children in schools – even after accounting for parental education and other factors. As the composition of schools tend to reflect the composition of the neighbourhood, this finding also suggests that immigrants in highly concentrated areas are less likely to speak the host-country language at home; that is, to have contact with the host-country language. However, in most countries a significant disadvantage remains even after controlling for such factors.

The penalty is further reduced – by two-thirds on average – once accounting for the overall parental disadvantage of students (as measured by the share of low-educated mothers) in highly concentrated schools. In several countries with high overall penalties, such as Austria, Belgium, and France, the penalty disappears, and is no longer statistically significant. In fact, among the countries with large immigrant populations, the penalty remains large and statistically significant only in Denmark, Germany and the Netherlands.

In a number of countries, there is no penalty observed from the outset. Among the countries with large immigrant populations, this is the case for Australia, Luxembourg and Norway. Both Australia and Luxembourg have highly-educated immigrant populations, with much higher shares of highly-educated among the immigrants than among the native-born. In Norway, there are important urban-rural differences in the performance of the school system, with schools in the urban parts – where immigrants are concentrated – performing much better.

**Figure 5.19. Performance of native-born students with immigrant parents in schools with a high concentration of such students compared with those with a lower concentration**

Differences in PISA points



Note: All models with controls also include controls for age and gender. Schools with a high concentration refer to the top quartile of schools by the share of children of immigrants. Each quartile has the same number of students overall. Results that are not statically significant from zero at the 5% level are marked in white.

Source: PISA 2018.

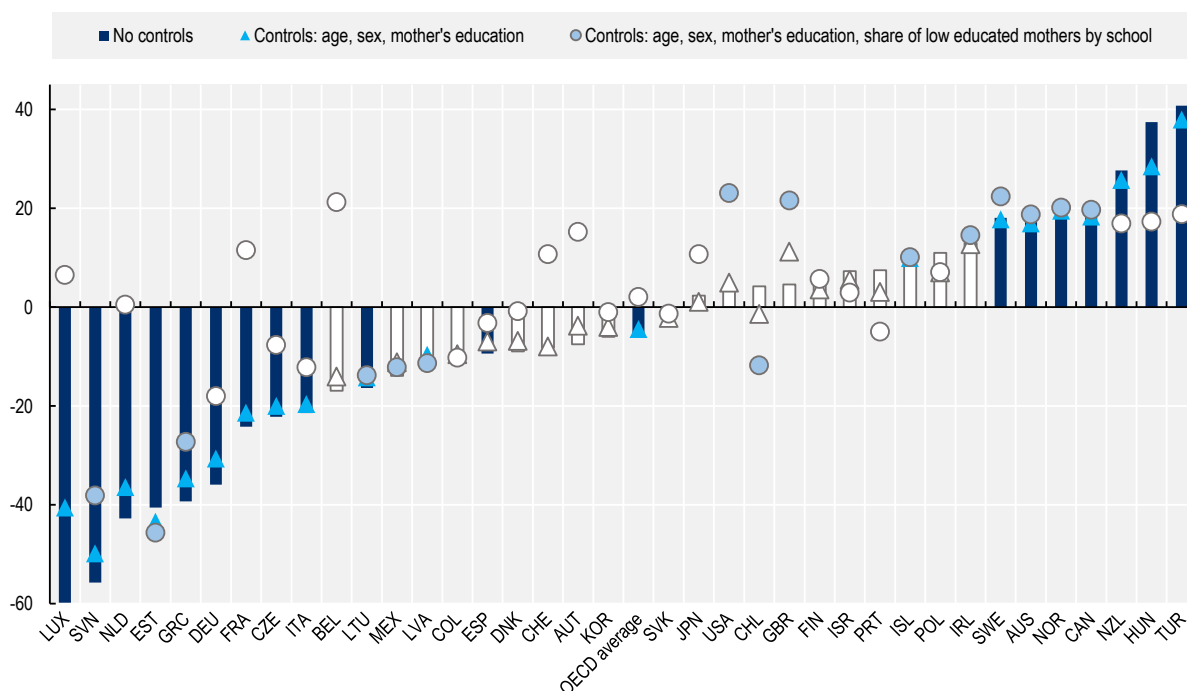
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Not only children of immigrants, but also children of native-born tend to face a disadvantage in such schools, especially in the Netherlands but also in the Czech Republic, Slovenia, Greece, Belgium, Luxembourg and Germany (Figure 5.20). However, with the notable exception of the Netherlands, the penalty is smaller for children of native-born than for the children of immigrants.

In a number of countries, there is actually a premium for attending a school with high shares of immigrants.<sup>7</sup> What is more, the penalty is in most countries again greatly reduced once accounting for the fact that schools with high shares of children of immigrants are also schools with high shares of students with low-educated mothers. Indeed, in a number of countries the penalty turns into an advantage and on average, no more penalty is observed for students with native-born parents.

**Figure 5.20. Performance of native-born students with native-born parents in schools with a high concentration of children of immigrants compared with those with a lower concentration**

Differences in PISA points



Note: All models with controls also include controls for age and gender. Schools with a high concentration refer to the top quartile of schools by the share of children of immigrants. Each quartile has the same number of students overall. Results that are not statically significant from zero at the 5% level are marked in white.

Source: PISA 2018.

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### ***Intergenerational dimension of integration***

The issue of residential concentration relates not only to immigrants themselves but also to their native-born children. Indeed, the location of immigrants across regions and within cities at different stages of their life cycle will condition where their children will grow up, where they will go to school, and whom they will make friends with. This may in turn influence a number of their economic and social outcomes. A significant literature has therefore investigated the intergenerational consequences of immigrants' location choices on their native-born descendants. This kind of analyses requires to link information, both individual and contextual, on two generations, which is very demanding in terms of data.

Many studies have analysed the Swedish case. For example, Grönqvist (2006<sup>[85]</sup>) used register data on first- and second-generation immigrants who in 1982 were residing in Sweden and were aged 6 to 15. The paper considered education and employment outcomes, observed in 2001 when the sampled individuals were aged 25 to 34. Results indicated that the share of immigrants from the same origin and their descendants negatively affected the probability of graduating from high school among immigrants themselves, but not among their native-born descendants. The size of the immigrant cluster of the same origin and their descendants negatively affected the probability that both immigrants and their native-born descendants graduated from university. Neuman (2016<sup>[86]</sup>) also analysed register data, focusing on native-born descendants of immigrants and natives born in Sweden between 1976 and 1980, and studying

both short-run economic outcomes, observed in 2000 when individuals were aged 20-24, and long-run economic outcomes, observed in 2007 when they were aged 27-31. The results indicated that native-born descendants of immigrants raised in immigrant-dense neighbourhoods had a lower probability to continue to higher education, whereas, their earnings, unemployment and use of social assistance were unaffected.

Working with register data for all individuals who were born in 1974 and lived in metropolitan Sweden in both 1990 and 2006, Gustafsson, Katz and Österberg (2017<sup>[87]</sup>) investigated whether young adults lived in neighbourhoods that were similar, in terms of relative average household income, to the neighbourhoods in which they grew up. The authors found a high correlation between average neighbourhood incomes at these two points in the sample's life cycle. They also found that half of the children of 'visible minorities' grew up in the poorer quartile of neighbourhoods, and of these, almost two-thirds remained in the poorest quartile of neighbourhoods as adults.

In a study using longitudinal data from France (1990-2008), McAvay (2018<sup>[88]</sup>) also investigated the extent to which second-generation immigrants and the French majority population continued to live in similar neighbourhood environments during childhood and adulthood. To explore the persistence of residential segregation and spatial disadvantage, the author drew on two measures of neighbourhood composition: the immigrant share and the unemployment rate. The results documented a strong stability of neighbourhood environments through the life cycle, especially with regard to the composition of the neighbourhood in terms of immigrants from the same origin and their descendants. Individual-level factors were shown to be quite weak in accounting for these patterns compared with the characteristics of the city of origin.

Zuccotti and Platt (2017<sup>[89]</sup>) used a large-scale longitudinal dataset of England and Wales, covering a 40-year period, to assess the impact of neighbourhood co-ethnic concentration in childhood on subsequent adult labour market outcomes. They distinguished the five main minority groups in the United Kingdom and showed that greater concentration of co-ethnics in the neighbourhood resulted in substantially lower labour market participation and lower social class for Pakistani and Bangladeshi women but better social class outcomes for Indian men.

Abramitzky et al. (2019<sup>[90]</sup>) focused on three cohorts of immigrants who entered the United States during the 19th or 20th centuries and studied intergenerational mobility of the children of these immigrants. They found that, both historically and today, children of immigrants at the bottom of the income distribution have higher rates of upward mobility than children of similarly ranked US-born fathers. They also found that immigrant parents were more likely than US-born parents to move to areas offering better prospects for their children, i.e. higher upward mobility.

## Policy issues and migrant segregation

This section considers the association between public policies and migrant concentration, both with respect to the impact of policy on migrant concentration and with respect to its impact on integration outcomes. In addition to migration policy itself, three policy areas are of particular interest in this context: education, housing, and broader urban regeneration policies. Other policy areas, such as infrastructure development and public transportation, may also impact migrant concentration, but the policy levers are more indirect.

### ***Migration policies***

Migration policy has only a very limited direct influence over migrant concentration, and this influence varies by migrant category.

*Family migration* (family formation and reunification) is driven by family ties, which by definition tends to enhance concentration, at least in cases where the principal applicant is a migrant. However, while most countries have put in place requirements regarding appropriate housing (OECD, 2017<sup>[91]</sup>) which may be

easier to meet in certain areas (see below), neighbourhood characteristics such as the share of migrants are generally not considered exclusionary. The one notable exception in this respect is Denmark. In that country, the applicant's spouse/partner will normally be required to reside outside of specific areas. This list of specific areas is based on a number of criteria including unemployment, crime rates and the share of immigrants from so-called "non-Western countries".

*Economic migration* is generally not confined to specific places. No OECD country has explicit criteria with respect to migrant concentration in the local community, although Australia, Canada and New Zealand have a number of incentives programmes to select migrants who will reside outside the large centres, given the high concentration of immigrants in the metropolitan areas. However, the main intention of such policies is not to prevent segregation per se, but rather to make sure that rural areas also have access to migrant labour. In its points system, New Zealand allocates additional points for settlement outside of the metropolitan area of its largest city, Auckland, but there is no further differentiation regarding rural and urban areas outside of Auckland. Australia has a number of measures in place to facilitate economic migration to rural areas (OECD, 2018<sup>[92]</sup>). This includes priority processing, specific regional settlement programmes and providing a number of incentives for migrants on temporary or provisional visas living in regional areas to settle – including for example through additional points for skilled migration candidates who have studied at a regional university. Migrants under regional settlement programmes are also obliged to remain in their area for the first two years. In Canada, where economic migration has seen a significant shift towards regionalisation in recent years (OECD, 2019<sup>[93]</sup>), provinces have their own economic migration programme – and these generally favour rural settlement. Recently, Canada also initiated a rural pilot programme, allowing local communities to sponsor economic migrants. Communities must have a population of maximum 50 000 people and be located at least 75 km from the core of a Census metropolitan area, or they must have a population of between 50 000 and 200 000 people and be remotely located from other larger cities.

Apart from the settlement countries, only Korea has policy parameters in place to favour economic migration outside the main cities in order to spread the benefits of immigration more widely (OECD, 2019<sup>[94]</sup>). For example, regulations with respect to the maximum share of foreign workers in the country are eased for manufacturing companies located outside of metropolitan areas.

*Humanitarian migration* is the migrant category where most place-based policies are in place, often with the explicit objective to have a more equal distribution of such migrants throughout the country. About a third of all OECD countries have some sort of formal mechanism in place to distribute asylum seekers across the country (see Table 5.11; see also OECD (2016<sup>[95]</sup>)). In practice, the situation is often less clear-cut. On the one hand, a number of countries that do not have an explicit dispersal policy in place nevertheless try to avoid a concentration of asylum applicants in specific areas, or to avoid large number from the same country or region of origin as is the case for example in Luxembourg. On the other hand, in countries with systematic dispersal, local concentration is not always prevented as the distribution of asylum seekers across the country is often largely proportional to population size – as is the case in Germany for example. What is more, a key parameter of allocation within recipient regions is often the availability of integration support services – and these tend to be in areas with high migrant presence. In the United States, for example, resettlement occurs through partner agencies and initial settlement is where these agencies are active. The availability of housing is also a key parameter in the decision of local dispersal, for example in Sweden and the United Kingdom. As immigrants tend to live in areas with lower housing prices, such parameters can reinforce concentration. The net effect is often unclear. However, for Sweden, Dahlberg and Valeyatheepillay (2019<sup>[96]</sup>) find that the initial neighbourhoods of refugees placed under the dispersal policy have been characterised by a higher share of native-born and a lower share of non-Western immigrants compared to refugees who arrived in a time period when they could themselves choose where to locate.<sup>8</sup>

The systematic dispersal of persons with humanitarian status – that is, asylum seekers who obtained a humanitarian residence visa, resettled refugees or other forms of international protection – is somewhat less common than that of asylum seekers (OECD, 2016<sup>[95]</sup>). However, in practice, the initial dispersal of

asylum seekers determinates to a certain degree the location after obtaining refugee or other international protection status. Whether or not this is actually the case depends on the likelihood that humanitarian migrants stay in the area in which they were initially located as asylum seekers. A number of countries also make receipt of social assistance for refugees conditional on staying in the designated area. This is for example the case in Denmark, Germany, Norway and Sweden. A number of countries have explicit anti-segregation objectives in refugee settlement. In Sweden, the allocation of refugees between municipalities takes into account local labour market conditions, population size and the overall number of newly arrived immigrants, unaccompanied minors and asylum seekers already living in the municipality. In Norway, settling refugees in Norwegian municipalities is the joint responsibility of central and local governments. Municipalities that are requested to settle refugees are selected on the basis of a set of criteria, including the avoidance of settlement in areas with migrant shares above 30%.

There is a large and growing amount of literature on the economic effects of dispersal policies. Most studies have found that dispersal has been associated with lower employment rates (Brücker et al., 2019<sup>[97]</sup>; Fasani, Frattini and Minale, 2021<sup>[98]</sup>; Damm and Rosholm, 2009<sup>[99]</sup>; Edin, Fredriksson and Aslund, 2004<sup>[100]</sup>). Studies have also consistently found that subsequent onward moves tend to be associated with higher employment among refugees (Haberfeld et al., 2019<sup>[101]</sup>; Azlor, Damm and Schultz-Nielsen, 2020<sup>[102]</sup>; Robinson and Andersson, 2003<sup>[103]</sup>; Stewart, 2012<sup>[104]</sup>), indicating that dispersal should not prevent such onward-migration – especially when it is employment-driven. Indeed, most countries with dispersal policies allow for subsequent moves if this is for the purposes of taking up employment. However, these studies must be interpreted with some caution, as long term-effects and impacts on other policy areas – including social integration – were generally not considered.

Dispersal does not always intend to avoid segregation. In New Zealand, for example, while refugees are dispersed across the country, within the recipient areas, efforts are made to ensure that refugees are settled in areas with peers from similar backgrounds.

**Table 5.11. Countries with parameters in their migration policies that aim at preventing migrant concentration**

Dispersal Policies for Asylum Seekers	Dispersal Policies for Refugees	Incentives for labour migrants to settle outside of segregated areas or urban centres
Australia	Australia	Australia
Austria	Canada	Canada
Belgium	Denmark	Korea
France	Estonia	New Zealand (points higher if job offers outside of Auckland but no further differentiation)
Germany	Finland	
Hungary	Korea	
Ireland	Luxembourg	
Italy	Netherlands	
Netherlands	New Zealand	
Norway	Norway	
Poland	Portugal	
Portugal	Sweden	
Slovenia	United States	
Sweden		
Switzerland		
Turkey		
United Kingdom		

Source: OECD questionnaire on policies aiming at reducing segregation of immigrants and its negative consequences, 2020.



## Education policies

More than half of all OECD countries have some policy in place to counteract school segregation. As Table 5.12 shows, most policies do not directly target migrant concentration but rather aim at broader socio-economic segregation or on a broader definition of disadvantage that considers both immigrant and socio-economic background. In practice, in many countries there is a significant overlap between concentration of immigrant parentage and socio-economic disadvantage. Data from the 2018 PISA show that in 29 OECD countries, schools with high concentration of children of migrants are overrepresented among the schools with high shares of students with socio-economic disadvantage. In Belgium, Germany, Luxembourg, the Netherlands, Switzerland and the United Kingdom, more than half of all schools that find themselves in the top quartile of concentration of children of immigrants are also in the top quartile of schools with socio-economic disadvantage.

**Table 5.12. Most common anti-segregation policies in the school sector**

		Migrant parentage	Socio-economic disadvantage	Both
Quota Regulations	Minimum quota	Sweden	Korea	Belgium Flanders (double quota system)
	Maximum threshold	Belgium Flanders Italy	Hungary	Belgium Flanders (double quota system)
Mobility-increasing support at student-level (e.g. mentoring, scholarships, provision of early childhood education)		Canada Costa Rica Ireland Italy Luxembourg Portugal (applicants/beneficiaries for/of international protection) Slovenia Sweden Switzerland Sweden	Chile Lithuania	Belgium Flanders Colombia Japan Slovenia United Kingdom
Support for disadvantaged schools		Canada Czech Republic Ireland Luxembourg Slovenia Switzerland	France New Zealand Portugal	Belgium Flanders Chile Finland Italy Korea Lithuania Mexico Netherlands Sweden United Kingdom

Source: OECD questionnaire on policies aiming at reducing segregation of immigrants and its negative consequences 2020.

Policies with respect to addressing segregation in the school system can be split into two strands. The first strand concerns policies that try to prevent or at least alleviate school segregation (*ex-ante* policies). The second strand includes measures aiming to alleviate detrimental effects of school segregation by targeted support for the concerned schools and students (*ex-post* policies). However, as will be seen below, a clear-cut separation is not always possible.

### *Policies to prevent migrant segregation in schools ex ante*

The key question to prevent school segregation in the first place is the student allocation process. Some countries have a regulated school allocation mechanism, while others leave it to the parents of students to

choose a school. The most common method for regulated school assessment is according to the student's residence. Residence-based school allocation used to be predominant in OECD countries but its importance declined since the beginning of the millennium. At the same time, evidence suggests that schools became more selective (OECD, 2019<sup>[105]</sup>). In parallel, however, over the past two decades, many OECD countries implemented reforms that aimed at loosening the link between home address and school, by providing more choice to families (Givord, 2019<sup>[106]</sup>).

### **The ambiguous effect of school choice**

The effect of increased school choice on segregation is ambiguous. On the one hand, it decouples school segregation from residential segregation; on the other hand, school choice may enhance more subtle sorting mechanisms as choosing the most appropriate school can be challenging for immigrant families. Native-born, especially higher-income, families tend to be better informed about school offers, admission criteria and the quality differences between schools. Immigrant families often not only lack such information but might also be hampered by language difficulties. What is more, they may prefer to choose the closest rather than the otherwise most appropriate school – also to minimise transport costs. In Sweden, for example, foreign-born students were found to travel shorter distances to schools except for those with highly educated parents (Andersson, Malmberg and Östh, 2012<sup>[59]</sup>) (Cerna, 2019<sup>[107]</sup>). Some might also prefer to send their children to a nearby school with a high share with other students from the same background in order to facilitate contacts.

The selection process by schools with limited admissions can also contribute to school segregation. As high learning outcomes are easier to achieve with better-off students, schools tend to have a preference to admit students that already know the teaching language and have intellectual support from home. Evidence for cream skimming was found in many OECD countries such as England (West, Ingram and Hind, 2006<sup>[108]</sup>), the United States (Jabbar, 2015<sup>[109]</sup>), Sweden (Böhlmark, Holmlund and Lindahl, 2016<sup>[110]</sup>), Norway (Haugen, 2020<sup>[111]</sup>) and Slovenia (Trnavcevic, 2002<sup>[112]</sup>). Academic results or tests as admission criteria enable schools to “cream skim” the best students and therefore increase academic segregation.

The literature has provided ample evidence of links between school choice and different types of school segregation (socio-economic segregation: e.g. Burgess and Briggs (2010<sup>[113]</sup>), Levin (1998<sup>[114]</sup>); segregation by racial or ethnic origin: e.g. Urquiola (2005<sup>[115]</sup>); segregation with respect to parental education levels: e.g. Söderström and Uusitalo (2010<sup>[116]</sup>)). However, most studies have focused on socio-economic segregation or racial/ethnic segregation rather than migrant segregation per se.

### **Levelling the playing field for choosing a school**

Policies aimed at providing comprehensive information on the offer of schools and their quality differences to everyone can reduce the information gap faced by immigrant families. Luxembourg, for instance, provides school brochures in different languages to make information accessible for immigrant families.

School admission fees can be a further obstacle. In Ireland, the 2018 Education (Admission to Schools) Act reduced financial barriers by banning fees related to admission at non-fee charging schools. Furthermore, the Act abolishes waiting lists to create equal chances for newly arriving students and students residing there for a longer time. Several countries also provide transport subsidies to compensate for additional costs.

Sweden took a further step by banning the admission by ability or family background to avoid cream skimming by schools on high demand (Böhlmark, Holmlund and Lindahl, 2016<sup>[110]</sup>).

### **School funding according to pupils' characteristics**

The interaction between school choice policies and school funding schemes can be a powerful tool to set incentives for admitting disadvantaged students. Weighted funding systems that take into account pupils'

background seek to counteract the occurrence of school segregation in the first place. Where there is per capita funding without differentiation between the background of pupils or where funding depends on learning outcomes, admission officers will face incentives to skim the best students. Haugen (2020<sup>[111]</sup>) conducted interviews with teachers from different schools in Oslo and found out that they decide admissions depending on the expected resources in relation to the expected costs they will have with the respective student. Funding schemes that take the student's background and the connected higher effort for the school into account could encounter such distortions. The United Kingdom, for example, incorporates student-specific additional needs in the school-funding scheme. The National Funding Formula takes into account pupils who are eligible for Free School Meals and also includes a factor for those who need to learn English.

### **Affirmative Action and upper thresholds to enhance social mix**

A more rigorous way of getting public schools to meet certain diversity criteria are quota regulations or target ranges for the share of migrant students with which they have to comply. Target ranges can reduce cream skimming and prevent schools from exceeding a certain threshold of migrant students, thereby addressing both ends of the concentration scale. This is the case for example in Sweden, where oversubscribed independent schools may use a quota (max. 5%) to prioritise students that have moved to Sweden within the last two years, although it appears that many schools do not take advantage of this possibility (Cerna, 2019<sup>[107]</sup>). In Korea, a minimum quota of students from a disadvantaged socio-economic background is in place for special-purpose high schools. Italy applies a 30% upper threshold for students with migrant background as share of total students enrolled to avoid high migrant concentrations. However, in countries in which the share of immigrants varies widely, such regulations with fixed limits can be difficult to implement. In Belgium Flanders, the quota varies by the density of disadvantaged pupils within a certain vicinity.

Some countries give oversubscribed schools the opportunity to prioritise disadvantaged students. In the United Kingdom, for instance, the School Admission Code enables admission authorities to give priority to disadvantaged pupils. The targeting towards children of immigrants is more direct in Sweden, where oversubscribed schools can give preference to migrant students who immigrated within the last two years.

### **Desegregation by dispersion**

A controversial school-specific strategy is the dispersal of disadvantaged pupils from segregated schools to better-off schools. In the last century, the United States and the United Kingdom implemented busing programmes to desegregate schools by changing the composition of students. These busing measures aimed to comply with certain target ranges of ethnic and racial groups on schools despite residential segregation. Busing as desegregation strategy came along with many problems and protests, as many did not share the objective of racial and ethnic integration. As a consequence, students from a racial or ethnic minority had to deal with busing-related offenses (Bergman, 2018<sup>[117]</sup>) and were often exposed to racism (Bebber, 2015<sup>[118]</sup>). In the United States, positive effects on performance of minority students participating in voluntary busing programmes were found (Bergman, 2018<sup>[117]</sup>).

In contrast to these programmes which focused on ethnic minorities and were voluntary, the Danish city of Aarhus has experimented with forced busing for students with migrant parents. A recent empirical study found negative effects on the performance and on the well-being of the students subjected to this forced busing (Damm et al., 2020<sup>[119]</sup>). The test scores in maths of pupils assigned to busing in grades three and six were found to be poorer than those of their immigrant peers. Similar negative effects were found for the reading scores in grades six and eight.

These opposing results could be due to a selection bias in busing on a voluntary basis, i.e. ambitions concerning school performance of students participating in voluntary busing measures. It is also possible that some of the students concerned by busing would have preferred to stay in schools with students from similar backgrounds and did not feel like they belonged in their new schools. A related issue is the allocation of newly-arrived immigrant students (see Box 5.5).

### Box 5.5. School allocation of newly-arrived immigrant students

The significant arrival of vulnerable migrants into many OECD countries since 2015 has put the school allocation of newly-arriving immigrant students into schools into the spotlight. The allocation across schools and schools' ability to provide language and integration classes are important factors in determining the education path of new arrivals and their integration in the education system and society at large. The allocation of schools can also influence the extent of contact between migrant students and host-country students.

One major challenge is that the integration of newly-arrived immigrant students requires specialised teachers who are able to deal with diverse backgrounds and limited host-country language knowledge as well as adapted curricula. As a consequence, there is often a trade-off between providing high quality integration classes for late-arriving students and distributing them to different public schools to ensure a better social mix. As a result, policy approaches differed. Turkey, for instance, reacted to the increase of Syrian refugees by building up specialised temporary education centres. In Finland, schools provide instructions in the respective mother tongues of the immigrant pupils if teachers for that are available. Furthermore, immigrant pupils in Finland are entitled to have classes in Finnish/ Swedish as a second language to catch up on the language requirements needed in school.

In several countries, including Austria, Denmark, Germany and Lithuania, students that do not master the host country's language can attend special classes within public schools where foreign language teachers provide language support. Schools in Lithuania also offer the opportunity to attend supplementary education activities with native-born students to improve their Lithuanian. In Austria, less language-intensive courses such as sports and music are taught within the mainstream classroom. These mixed forms allow the students to have both specialised classes to catch up on the national curriculum and contact to students from the host country – in addition to preventing school segregation.

#### *Policies aimed at alleviating the effects of school segregation*

The line between ex-ante and ex-post policies is often blurry and policies can be overlapping. For example, while specific support measures for students with immigrant parents at schools with high concentration might not attract students with native-born parents, general compensatory support to concentrated schools aiming to increase the quality can make schools attractive for a wider range of students.

#### **Increasing the attractiveness of segregated schools**

One policy option to attract students from more affluent, native-born families is to implement special high-demand curricula in segregated schools. In Turkey, some schools implemented special curricula to attract students from diverse backgrounds and, at the same time, create cultural awareness. In the scope of the elective course "Living Languages and Dialects", students can learn about different cultures. Transforming segregated schools to "Magnet Schools" (that is, schools offering specialised courses or curricula that aim at attracting a diverse set of students) is also part of the desegregation strategy implemented in the United States. Nonetheless, evidence on the effect of the implementation of magnet curricula on diversity is mixed. Riel et al. (2018<sup>[120]</sup>) expect that an increase in magnet schools in the United States is likely to promote diversity in schools and districts while Saporito (2003<sup>[121]</sup>), for instance, found that socio-economic and origin-related sorting takes place even when parents send their children to magnet schools.

### **Additional support for schools to counteract the negative effects of segregation for migrant youth**

School funding can depend on the respective individual student characteristics or on the school itself with its composition of students and its location. However, these two methods are closely interlinked, as the student composition in school is a direct consequence of schools' admission policies. While weighted per-pupil funding sets incentives for admissions (see above), targeted financial support for schools rather aims to compensate the negative effects of already existing school segregation. Therefore, a number of OECD countries provide extra resources to improve the quality of schools with high shares of children of migrants or foreigners (e.g. Czech Republic) or socio-economically disadvantaged students (e.g. New Zealand). The Netherlands directs extra funding to schools that have a high share of low-performers. A threshold regulation ensures that money is only allocated to schools that exceed a certain share of youth at risk of underperforming and, thus, need extra support. The challenge with these policies is that while schools with high shares of students with immigrant students might receive extra funding, they may not always use it for these students, unless there is some regulation/condition attached to the funding.

In Canada, schools with high numbers of newcomer students can make use of the federally-funded programme Settlement Workers in Schools. The measures within this programme depend on the province but can range from school registration information and orientation activities to informal language learning and non-therapeutic counselling and peer support.

In other countries, the additional support depends not on the school itself, but on the area where the school is located. Finland allocates extra funding to schools in socio-economically deprived areas with high shares of foreign language residents and in the United Kingdom, so-called social mobility "cold spots" (that is, areas with low upward social mobility) receive additional funding to increase the quality of schools in these areas. In addition to extra funding to schools, the provision of higher salaries for the teaching staff can compensate them directly for their extra work and can incentivise experienced teachers to teach in segregated schools. Portugal targets schools in socio-economically deprived areas with the TEIP programme (Priority Intervention Educational Areas), which covers about 17% of the Portuguese school clusters (schools within the same geographical area) and defines improvement plans depending on the respective local context. These improvement plans can include additional teachers, psychologists or social workers as well as more diverse educational offers.

In France, schools in socio-economically disadvantaged areas – in which children of immigrants are strongly overrepresented – are subject to priority education. Priority education aims to reduce the performance gap between schools in disadvantaged areas and other schools to less than 10% by a certain age level. It includes different quality-improving measures and tries to address the needs of students with a disadvantaged background. Additional teaching staff is available which allows for more individual support. Furthermore, the strategy sets incentives for teachers to teach in these schools. They obtain extra remuneration and can increase their chances to get employed by their school of preference afterwards. The programme therefore tends to attract rather junior teachers who often move on after a few years. Within this framework of priority education for disadvantaged students, the "parcours d'excellence" (pathways to excellence) programme supports secondary school pupils that aspire to ambitious studies and professional integration. Such students can make use of special offers such as cultural visits and individual coaching, but the numbers involved are small.

Financial incentives for schools and teachers, special training for teaching staff or additional equipment can improve the learning situation in these disadvantaged schools. The Life Skills Programme in Chile, for instance, provides tools to teachers and management teams to work with vulnerable students in schools with particularly high concentrations of such students. Likewise, welfare workers and psychological support as provided in Korea's Education Welfare Priority Programme for schools exceeding a certain threshold of disadvantaged students can help overcome learning difficulties.

Sweden frames its extra support for disadvantaged students as “compensatory mission of schools” that should guarantee equal opportunities regardless of the background of the parents, and Norway aims to give all children the opportunity to attend a minimum of one after-school-activity and promotes a mentor system for at-risk youth (Staver, Brekke and Søholt, 2019<sup>[122]</sup>).

In summary, while few policies target migrant segregation in schools specifically, a number target disadvantaged students, among which migrant students tend to be overrepresented. Table 5.13 summarises the anti-segregation policy measures discussed in this chapter, differentiating between interventions at the school-level and at the student-/family-level.

**Table 5.13. Anti-segregation school policies**

	Ex-Ante	Mixed	Ex-Post
School Level	Regulation of admission criteria	Special curricula at segregated schools (“Magnet Schools”)	Increased language teaching time
	Quota regulations or target ranges for migrant pupils	Special training and incentives for teachers and principals to teach in segregated schools	Multilingual teaching staff
		Extra funding and support for identified segregated schools	
Student/Family Level	Provision of equal information on school offers		Provision of special support for migrant students at segregated schools
	Reduction of barriers to exercise school choice (transport subsidies, school vouchers)		Reduction of barriers to change school (vouchers, etc.)
	Dispersal of new-arriving migrants		Desegregation of segregated schools by dispersal of students (busing)

Source: OECD questionnaire on policies aiming at reducing residential segregation of immigrants and its negative consequences 2020.

### ***Housing policies***

A core policy area in relation to migrant concentration is housing policy. Across the OECD, there are wide differences in the functioning of the housing market and the scale and scope for policy action – as well as the policy levers – therefore vary widely. The accessibility and availability of quality housing in areas with residential segregation is also closely linked with the broader issue of urban regeneration (see Box 5.6).

### Box 5.6. Urban regeneration in areas with high concentration

A number of OECD countries have experimented with comprehensive urban regeneration programmes for areas with high concentration of disadvantage and poor housing and neighbourhood conditions, which often concerns areas of high immigrant concentration. In addition to the Scandinavian countries where such urban regeneration policies are embedded in anti-segregation strategies, programmes with a strong direct or indirect targeting of neighbourhoods with high shares of immigrants exist in Belgium Flanders, Estonia, France, Germany, the Netherlands, and the United States (see Table 5.14). The interventions either focus directly on the spatial dimension of the areas concerned (notably with respect to improvements to housing, public spaces and infrastructure) or try to improve livelihoods and social integration through economic and social interventions, or both (e.g. in the Nordic countries, in France or in the Netherlands (Musterd and Ostendorf, 2008<sup>[123]</sup>)).

As part of urban regeneration, a few OECD countries explicitly relocate residents or try to restrict inward settlement. This concerns Denmark, where the most vulnerable areas (“severe ghettos”) are required to undergo a development plan to reduce the share of social housing to 40% by 2030. This can be achieved through sales, establishment of new private property, demolition, etc. Municipalities with targeted areas are required to introduce criteria giving priority to applicants based on employment and education. Municipalities cannot assign refugees temporary housing in areas that are designated as deprived areas, and family reunification to such areas is also restricted. Portugal’s strategy to counteract segregation in deprived areas includes rehousing measures where people from areas with poor living conditions are relocated to other parts of the city.

Several countries also try to physically change areas of high concentration of disadvantage. The most radical approach is demolition of poor-quality housing blocks, to improve the physical appearance of the areas to attract better-off households and improve quality of life for those who remain. In several metropolitan areas in France, the Netherlands and the United Kingdom, large-scale demolitions were carried out in deprived areas. Evaluations on the effectiveness of such demolition policies as the Dutch Big City Policy, where poor-quality housing stock was destroyed and replaced by new, higher-value housing to create more socio-economically mixed neighbourhoods, have shown ambiguous results (Tosics, 2009<sup>[124]</sup>). The newly-created dwellings were often more expensive, and previous residents could no longer afford to live there. As a result, the demolition exacerbated the shortage of affordable housing and led to displacements, often leaving those displaced less well off. As a result, displaced households often tended to locate in different neighbourhoods with similarly high proportions of immigrants (Bolt and Van Kempen, 2010<sup>[125]</sup>), thereby just displacing rather than resolving the challenge of migrant concentration.

Several OECD countries have targeted social interventions in areas with high concentration of disadvantage. Germany, for example, runs a programme “social cohesion” which provides 200 million Euros per year for disadvantaged neighbourhoods. Urban development investments in the residential area, in the infrastructure and in the quality of living aim at promoting neighbourhood attractiveness and at strengthening social cohesion. The integrated development concept as an important core element of the programme brings together all actors and resources in the district. Investments under this programme can include social infrastructure, housing, or schooling, as well as integration support for migrants.

**Table 5.14. Overview of policies for area-specific interventions and their parameters**

	Identification of the areas	Area-specific interventions
Belgium Flanders	Socio-economic indicators, <b>foreign nationalities</b>	Targeted funding for neighbourhood improvement programmes, regeneration programmes
Denmark	Socio-economic indicators, “ <b>non-western</b> ” <b>immigrants and their descendants</b>	Physical changes: tenure type changes, demolition, sales, establishment of new private properties Social changes: priority to applicants based on employment and education, no refugees assigned to specific areas, better policing, mandatory early childhood learning, penalties for schools with poor results
Estonia	<b>High share of immigrants and their descendants</b> , low-income earners	Provision of special social services, language and life-long learning emphasised, regeneration programmes Forthcoming: strategy with main aim to prevent any kind of segregation based on migrant background “Population and Coherent Society”
Finland	Socio-economic indicators (mostly concentrated in same areas as non-finish speakers)	Allocating different tenure types (private rental, owner occupied) to neighbourhoods with high concentrations of social housing, regeneration programmes, projects improving the quality and attractiveness of the neighbourhoods
Germany	Socio-economically disadvantaged areas (but also infrastructure, physical characteristics of area and <b>share of immigrants and their descendants + language skills</b> considered)	“Sozialer Zusammenhalt” (social cohesion) project: Targeted investments to improve infrastructure, neighbourhood quality, chances for participation and integration for inhabitants
Norway	Varying definitions: overcrowding, socio-economic indicators, accumulation of drug and health problems, <b>high shares of immigrants and foreigners</b> , insecurity	“Area initiatives”: improve attractiveness by changing the environment, long-term strategy with long-term goals that are defined accordingly
Portugal	Socio-economic indicators	Education interventions, rehousing, measures to promote social integration of residents
Sweden	Areas with socio-economic challenges	Prioritised interventions cover the following: housing, education, labour market, democracy, civil society and crime
United States	Targeted Employment Areas: unemployment rate at 150% of the national average rate	Facilitations for non-citizen investors (lower investment threshold (USD 900 000) for new commercial enterprises locating in Targeted Employment Areas)

Source: OECD questionnaire on policies aiming at reducing segregation of immigrants and its negative consequences, 2020.

### *Driving factors of migrant concentration in the housing market*

In addition to the often lower overall socio-economic status of migrant households, there are a number of migrant-specific disadvantages in the housing market such as smaller networks, discrimination and a lack of knowledge about the functioning of the housing market that restrict their residential choice.

These factors are often interlinked. For example, with respect to mortgages, conditions for recent arrivals tend to be less favourable as they lack a credit history. A study from the Netherlands showed that, even after controlling for socio-economic background, the acceptance rate for a credit loan was lower for immigrants than for their native-born peers (Aalbers, 2007<sub>[126]</sub>).

There is also ample evidence of discrimination in the rental market (see for an overview the recent meta-study by Auspurg, Schneck and Hinz (2019<sub>[127]</sub>). Further research has shown that migrants are offered by real estate agents fewer and different dwellings than their native-born peers (Galster and Godfrey, 2005<sub>[128]</sub>). In addition to outright discrimination by property owners, there is also a further effect due to a negative impact of high shares of immigrants and their descendants on housing appreciation (Flippen, 2004<sub>[129]</sub>). As a result, evidence from the United States suggests that agents provide more information to native-born white clients and steer them towards more white and less poor neighbourhoods (Galster and Godfrey, 2005<sub>[128]</sub>). In addition, immigrants often have to pay a premium in the private property market. For example, Bayer et al. (2017<sub>[130]</sub>) examined four big cities in the United States and found that Hispanic homebuyers have to pay a price premium of around 2%.



### *Social housing*

Given the obstacles faced by immigrants on the private housing market, the social housing sector is of particular relevance for tackling residential segregation. The access to social housing, its scale and scope, and the areas in which it is provided, are all key housing policy parameters that can directly influence migrant residential segregation and indeed, migrant integration at large.

The lever of social housing measures depends on the size of the social housing market in the overall housing market. According to the OECD *Affordable Housing Database* (OECD, 2021<sup>[131]</sup>), the share of social housing is above 10% in eight OECD countries: the Netherlands (38%), Austria (24%), Denmark (22%), the United Kingdom (17%), France (14%), Ireland (13%) and Iceland and Finland (11%). There are also wide differences in the functioning of the social housing market, including with respect to the parameters which govern access and distribution (OECD, 2020<sup>[132]</sup>).

Social housing can be both a driving and a preventative force for residential segregation, depending on the size, location and allocation process of social housing units. While large social housing projects can be a driver of segregation, small-size projects tend to decrease segregation as they are more likely to disperse social housing residents in different areas (Verdugo and Toma, 2018<sup>[133]</sup>). One of the OECD's key recommendations in this respect is "Inclusionary Zoning" (Moreno Monroy et al., 2020<sup>[134]</sup>). According to the (World Bank, n.d.<sup>[135]</sup>), under inclusionary zoning private developers are either required or incentivised to incorporate affordable or social housing in their site development. This can be achieved either by incorporating affordable housing into the same development, by building it elsewhere, or by providing funding or land for social or affordable housing. The French Social Housing Act "Solidarité et Renouvellement Urbain" implemented a social housing minimum quota of 20% in every municipality in urban areas (Blanc, 2010<sup>[136]</sup>), and localities that do not comply with the 20% minimum are fined. Likewise, some German cities have a social quota in place for land use allocation. However, implementation often needs a lot of time as new social housing dwellings need to be built or converted from the existing housing stock.

Of course, for social housing to play a role in reducing migrant concentration, it is not only important that social housing is de-concentrated; it also needs to be accessible to migrants. In the majority of OECD countries, permanent residents tend to have the same formal access to public housing as the native-born. However, there are obstacles for immigrants to get into social housing shortly after arrival. Some countries have long waiting lists (e.g. Belgium, Canada) or require applicants to have lived a minimum amount of time in the region (e.g. some municipalities in Norway) or in the country (e.g. New Zealand). In addition, immigrants face difficulties to meet other requirements such as in Belgium Flanders, where a certain level of Dutch language skills may be required.

### *Individual financial support*

Rather than providing social housing per se, there is also the possibility to support households in need financially to access the private housing market. This can be done through housing allowance schemes, including voucher systems (e.g. voucher-based systems in the United States for low-income households) and other financial support systems for disadvantaged groups, which can target those in need more specifically. Most OECD countries have such kind of support for low-income households, and immigrant households generally tend to be eligible for this as well. About a dozen OECD countries (Australia, Austria, Belgium, Canada, the Czech Republic, Denmark, Germany, Lithuania, New Zealand, Norway and Slovenia) have specific loan or financial support schemes for refugees.

### *Tackling migrant-specific disadvantages*

While all OECD countries provide some legal protection against discrimination (OECD, 2020<sup>[137]</sup>), only a few countries have specific policies or monitoring mechanisms to combat discrimination in the housing

market. Among these countries is the United States, where the Fair Housing Act guarantees legal protection to specific groups that are at risk of discrimination due to their skin colour, disability status, familial status, national origin, ethnicity, religion, sexual orientation or gender. To enforce the act and to monitor discrimination, “Fair Housing Testers” are employed across the United States (United States Department of Justice, 2021<sup>[138]</sup>). These testers act as home seekers to gather information about discriminatory housing market practices. In European OECD countries, in contrast, the issue of discrimination in the housing market has received little policy attention as witnessed by the fact that there have been very few discrimination suits over housing, when compared with those over employment issues (Silver and Danielowski, 2019<sup>[139]</sup>). This gap is noteworthy, since data from the Second European Union Minorities and Discrimination Survey show that self-reported discrimination in the housing market is just as common as in the labour market. While this does not necessarily reflect actual discrimination, it does suggest that it is an underappreciated issue.

Given migrants’ disadvantage with respect to knowledge about the functioning of the housing market, some countries provide targeted information and counselling – notably for refugees. In the Netherlands, for example, “facilitation days” for refugees provide support with these issues (Network of Integration Focal Points, 2007<sup>[140]</sup>) and in Belgium, the accommodation structure of persons newly recognised as refugees provides assistance to find new housing. This includes especially linguistic assistance but also legal and financial consultation and the search for adequate housing. Some cities provide assistance and support services to help newcomers find affordable housing.

## Conclusion

High residential concentration of immigrants is a universal phenomenon in OECD countries. It is observed at different geographical levels: across regions or cities and across neighbourhoods within cities. While there is some indication of growing immigrant residential segregation, this primarily concerns the school level, while the evidence at the neighbourhood level is more mixed. However, even when immigrants spread more broadly across space, this does not necessarily translate into diminished perceptions of the issue, for two reasons. First, in long-standing immigration countries, native-born descendants of immigrants often end up living in “historical” immigrant neighbourhoods, which leads to a perception of ethnicisation of neighbourhoods even though the local share of foreign-born has actually declined. Second, a more even spread of immigrants across cities and regions also make them more visible to a larger share of the native-born population, who may take this as a marker for an even larger immigrant presence in previously segregated neighbourhoods.

The drivers and impacts of migrants’ concentration are multiple and complex. New arrivals tend to move to areas with a high concentration of individuals from the same origin, and this is often associated with short-term benefits, because of the help provided by local social networks in searching for a job or an accommodation. However, this initial advantage tends to turn into a disadvantage over time, as high immigrant concentration is associated with slower familiarity with the host-country institutions and language.

It thus appears that living in an area with a high residential concentration of immigrants is associated with a trade-off: it entails both short-term benefits for new arrivals but also long-term integration costs. In any case, residential concentration is difficult to tackle. In particular, trying to prevent migrants from seeking such short-term gains is not only challenging, but could also be counterproductive. Countries have nevertheless tried it – notably regarding new humanitarian arrivals – but the evidence suggests that this strategy did often not bear the expected fruits: it was associated with lower employment while many migrants subjected to dispersal moved nevertheless to segregated areas later. Indeed, the short-term benefits of living in a segregated area tend to be quite robust, while the long-term costs are less certain,

particularly in contexts where immigrants are uncertain about their long-term residence and integration prospects.

While outmigration concerns both native-born and immigrants, it does not necessarily enhance segregation. However, as the movers out of areas with disadvantage tend to be in a better socio-economic position than those who remain, it does exacerbate the overall level of disadvantage in the neighbourhood. In any case, outmigration only plays a limited role as segregation patterns remains largely determined by initial residence. It is thus vital to break negative intergenerational dynamics for immigrants, especially for the low-educated, not only but particularly in areas with high residential concentration. More policy attention should be devoted to address the causes of the immobility of migrants and their children – especially of those who are in a very low socio-economic position – living in disadvantaged areas.

In this context, more attention needs to be given notably to the quality, distribution and accessibility of housing for immigrants – both for new arrivals and settled migrants. This is a much underappreciated policy area regarding integration, although it is also particularly difficult to tackle, especially in countries where the social housing stock is small. Apart from the levers associated with social housing, broader access to housing credits and addressing discrimination in the housing market are also promising and underappreciated areas for policy action.

Another area where greater policy attention is required is the integration of immigrant women in areas with high residential segregation, in particular as it has a spill over effect on the outcomes of their children. The tentative evidence in this chapter suggests that this is partly associated with different social norms in areas with high segregation, especially when immigrants from origin countries with high gender disparities are concerned. However, the evidence in this respect is not very strong, and both the gender impact of residential segregation and the links between segregation and social norms are under-researched areas.

Both research and integration policy also need to pay more attention to the spatial aspects of intergenerational dynamics. To overcome the lower interactions with the host-country institutions and language barriers, specific language training efforts and information outreach for immigrants in areas with high concentration seem a further promising avenue for policy efforts.

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## Annex 5.A. Supplementary materials


### Tables and figures

**Annex Table 5.A.1. Regional concentration and urban share of native-born and foreign-born populations in Canada, England, Sweden and the United States, 1910-11**

	Canada, 1911		England, 1911		Sweden, 1910		United States, 1910	
	Foreign-born	Native-born	Foreign-born	Native-born	Foreign-born	Native-born	Foreign-born	Native-born
Share of regions comprising 50% of the respective population	10.4% (23/222 districts)	31.5% (70/222 districts)	5.0% (2/40 counties)	12.5% (5/40 counties)	12.5% (3/24 counties)	37.5% (9/24 counties)	1.2% (36/2 952 counties)	13.7% (403/2 952 counties)
Urban share	54.4%	43.8%	23.2%	10.7%	47.0%	22.8%	68.6%	40.8%

Note: For each country, the share of administrative units (districts for Canada, counties for the three other countries) comprising 50% of the population is computed as follows: for each group (foreign-born and native-born), the distribution of the population across all regional units is obtained, and regional units are sorted in decreasing order of their respective share. A count is then done to determine the minimal number of regional units needed to reach 50% of the population. The urban share is the share of the population living in localities designated as urban. The definition of “urban” varies across countries. In some cases, the definition is based on a population threshold or other measurable criteria, in other cases the categorisation is based on an administrative classification.

Source: Census data of Canada, England, Sweden and the United States; Minnesota Population Center (2020<sup>[7]</sup>), “Integrated Public Use Microdata Series, International: Version 7.3”, <http://dx.doi.org/10.18128/D020.V7.3> and OECD Secretariat calculations.

StatLink  <https://stat.link/ciebh6>

**Annex Table 5.A.2. Coefficients from regressions of the share of foreign-born on city population in European countries, 2010-19**

	Total immigrants	Non-EU immigrants	EU immigrants
Log city population	1.81***	1.43***	0.38***
Controls	Country and year fixed effects		
Number of observations	2 263	2 263	2 263

Note: Each cell shows the coefficient of a different linear regression of the share of immigrants in the population (total, only non-EU-born or only EU-born) on log city population. Observations are 435 functional urban areas (FUAs) in 20 European countries pooled over 10 years (2010-19; unbalanced panel). A FUA consists of a densely inhabited city and of a surrounding area (commuting zone) whose labour market is highly integrated with the city. All regressions include country and year fixed effects (coefficients not shown). \*\*\*: coefficients are significantly different from zero at the 1% level.

Source: Eurostat; OECD Secretariat calculations.

StatLink  <https://stat.link/jywx3>

### Measurement of segregation

In order to measure the residential segregation of a region, several methodological and conceptual issues must be addressed. First, because residential segregation indicates the extent to which individuals of different groups live in different neighbourhoods, the meaning of “neighbourhood” must be clarified.

Second, a conceptual definition of residential segregation must be chosen. Massey and Denton (1988<sup>[141]</sup>) describe five different dimensions of segregation: evenness, exposure, clustering, concentration, and centralisation. Strategies for measuring residential segregation will depend on which of these aspects are relevant for the question at hand. Third, the population dimension along which to measure segregation must be defined (e.g. country of origin).

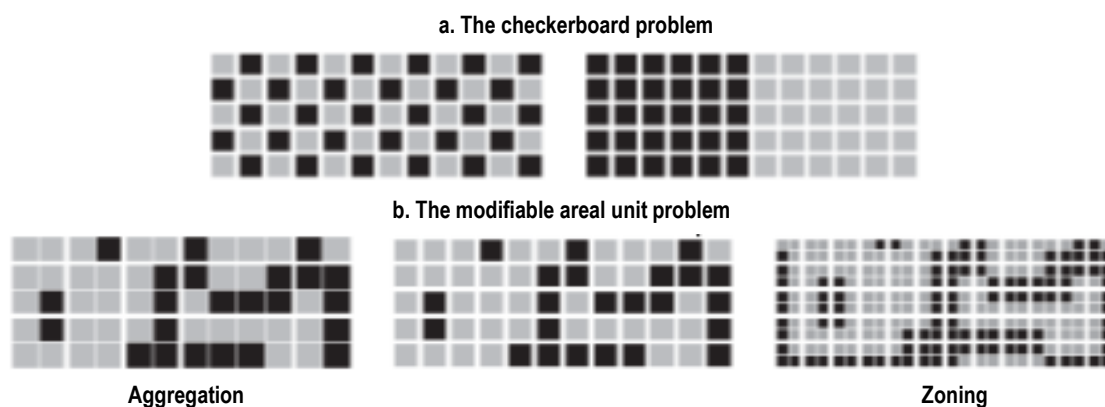
Most traditional measures of residential segregation are described as *aspatial* because they implicitly define an individual's social environment as equivalent to some areal unit (e.g. a census tract), without considering the relative location of these units in space. All individuals in a given census tract, for example, are defined as occupying the same environment, whose composition is independent of the makeup of nearby tracts.

Aspatial segregation measures have often been criticised in the residential segregation context for their failure to account for the spatial patterning of census tracts (Reardon and O'Sullivan, 2004<sup>[142]</sup>). In particular, those measures do not account for the “checkerboard problem” and the “modifiable areal unit problem”.

The “checkerboard problem” stems from the fact that aspatial measures ignore the spatial proximity of neighbourhoods and focus instead only on the composition of neighbourhoods. In a checkerboard where each square represents a black or white neighbourhood, if all the black squares were moved to one side of the board and all white squares to the other, a measure of segregation should register this change as an increase in segregation because most neighbourhoods would now be surrounded by neighbourhoods of the same colour (Annex Figure 5.A.1). Aspatial measures of segregation, however, do not distinguish between the first and second patterns, since in each case the compositions of individual neighbourhoods are the same.

The “modifiable areal unit problem” (MAUP) arises in residential segregation measurement because residential population data are typically collected and/or reported for spatial units (such as census tracts) that have no necessary correspondence with meaningful social/spatial divisions. This data collection scheme implicitly assumes that individuals living near one another but in separate spatial units are more distant from one another than are two individuals living relatively far from one another but within the same spatial unit. As a result, all measures of spatial and aspatial segregation that rely on population counts aggregated within subareas are sensitive to the definitions of the boundaries of these subareas. Two aspects of the MAUP are illustrated in Annex Figure 5.A.1: aggregation effects, which result in differences in measured segregation if different sized subareas are used to compute it; and zoning effects, which result in differences in measured segregation if the subarea boundaries are shifted, even if the number and size of the subareas remain fixed.

### Annex Figure 5.A.1. The checkerboard problem and the modifiable areal unit problem



When measuring residential segregation, the checkerboard problem and MAUP pose conceptual difficulties. Reardon and O’Sullivan (2004<sup>[142]</sup>) argue that these problems are caused by the reliance on subarea (e.g. tract) boundaries in the computation of segregation measurement. In principle, segregation measures that use information on the exact locations of individuals and their proximities to one another in residential space would eliminate the “checkerboard problem” and MAUP issues from the measurement of residential segregation.

As noted above, Massey and Denton (1988<sup>[141]</sup>) describe five distinct “dimensions” of residential segregation, which they term evenness, exposure, clustering, centralisation, and concentration. In their formulation, evenness and exposure are aspatial dimensions, while clustering, concentration, and centralisation are explicitly spatial dimensions of segregation and require information on the locations and areas of census tracts to compute.

Reardon and O’Sullivan (2004<sup>[142]</sup>) suggest an alternative to the Massey and Denton dimensions of residential segregation, arguing instead for two primary conceptual dimensions: spatial exposure (or spatial isolation) and spatial evenness (or spatial clustering). Spatial exposure refers to the extent that members of one group encounter members of another group (or their own group, in the case of spatial isolation) in their local spatial environments. Spatial evenness, or clustering, refers to the extent to which groups are similarly distributed in residential space. Spatial exposure, like aspatial exposure, is a measure of the typical environment experienced by individuals and depends in part on the overall racial composition of the population in the region under investigation. Spatial evenness, in contrast, is independent of the population composition.



### Annex Box 5.A.1. Measuring and visualising residential segregation: The dissimilarity and isolation indexes and location quotients

Many indicators have been proposed in the literature to capture the different dimensions of residential segregation (see e.g. Massey and Denton (1988<sup>[141]</sup>) and Reardon and O’Sullivan (2004<sup>[142]</sup>) for extensive descriptions of existing a-spatial and spatial indicators and their properties).

The dissimilarity index, which captures evenness, is certainly one of the most widely used indicators of residential segregation. It compares the distribution of two populations – typically a minority group versus a majority group – across local units (e.g. census tracts within a region or city). More specifically, the dissimilarity index measures the share of the minority group that would need to move to different geographic areas to achieve a uniform distribution across local units in the region or city considered. It is computed as follows:

$$D = \frac{1}{2} \sum_{i=1}^N \left| \frac{a_i}{A} - \frac{b_i}{B} \right|$$

where  $a_i$  and  $b_i$  are the populations of groups A and B in local unit  $i$  (e.g. census tract),  $A$  and  $B$  are the total populations of these groups in the whole region or city, and  $N$  is the number of local units in the region or city.

The isolation index provides a complementary perspective, measuring exposure of members of the minority group to other minority persons; it is the probability that an individual from the minority group shares a local unit with another individual from the same group. For group A, it is computed as follows:

$$I_A = \sum_{i=1}^N \left( \frac{a_i}{A} \right) \left( \frac{a_i}{a_i + b_i} \right)$$

with the same notations as above (and assuming A and B are the only two groups in the population). One obvious limitation of the isolation index is that it increases mathematically with the share of group A in the population, making comparisons over time or across groups uneasy. The adjusted isolation index corrects this bias and is computed as:

$$\tilde{I}_A = \frac{I_A - [A/(A+B)]}{1 - [A/(A+B)]}$$

Residential segregation is intrinsically a spatial phenomenon. It is therefore useful to map the spatial distribution of different groups in a city or region. The relative concentration of a group at the local level can be assessed through location quotients. The location quotient of group A for cell (or census tract)  $j$  in city  $k$  is:

$$LQ_{Aj}^k = \frac{a_j^k / t_j^k}{A^k / T^k}$$

where  $a_j^k$  is the population of group A in cell  $j$  in city  $k$ ,  $t_j^k$  is the total population of this cell,  $A^k$  is the population of group A in city  $k$ , and  $T^k$  is the total population of city  $k$ . A location quotient above 1 indicates an area where the local share of this immigrant group is higher than the city average.

### Annex Box 5.A.2. The Joint Research Centre *Data for Integration* (D4I) dataset

The *Data for Integration* (D4I) dataset, published by the Joint Research Centre of the European Commission, has been obtained through a spatial disaggregation of statistics of the 2011 Census, collected from national statistical institutes. The results of the spatial processing of the original data is a uniform grid showing the concentration of migrants in cells of 100 by 100 metres in all cities of eight European countries (France, Germany, Ireland, Italy, the Netherlands, Portugal, Spain, the United Kingdom). Immigrants are grouped at three different levels of aggregation: by specific country, continent, and EU versus third country origin. A detailed description of the data is provided in Alessandrini et al. (2017<sup>[23]</sup>).

The analyses based on this dataset in this chapter focus on non-EU immigrants and use a slightly coarser grid (300 by 300 metres). Maps in Figure 5.7 report location quotients for each cell in the core of some of the major functional urban areas in Europe.

## Notes

<sup>1</sup> This work was produced with the financial support of the Swedish Ministry of Employment. It includes a contribution by Anke Windisch (Consultant to the OECD).

<sup>2</sup> As already noted by (Hugo, 2008<sup>[143]</sup>), “immigrants have shown an increasing tendency to settle in large cities, especially Sydney and Melbourne, which in 2006 had 34.1% of the Australia-born population but 53.1% of the foreign-born.” In 2016, the foreign-born accounted for 35% of the population of Sydney, and 32% of Melbourne’s.

<sup>3</sup> For Japan and Korea, data by place of birth are not available. For these two countries, data refer to foreign nationals.

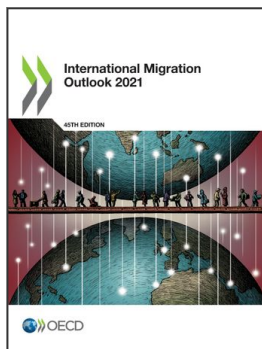
<sup>4</sup> It was also above average in the largest prefecture capitals, such as Osaka (5.1%), Nagoya (3.6%), Kyoto (3.3%) or Kobe (3.1%). In total, Tokyo and the 46 prefecture capitals hosted 47% of all foreigners living in Japan, compared to 37% of the total population.

<sup>5</sup> The share of foreign-born was especially high in Tijuana (4.8%) and Juarez (4.5%), which accounted for 18% of all US-born residents of Mexico.

<sup>6</sup> <https://mmp.opr.princeton.edu>.

<sup>7</sup> This has also been confirmed in country-specific studies, for example for the United Kingdom (Geay and McNally, 2013<sup>[145]</sup>).

<sup>8</sup> Although not related to humanitarian but to ethnic migration, in Israel, the limited availability of housing as well as opposition by resident middle and upper class in certain areas led to spatial segregation of Ethiopians in certain, often deprived, areas (OECD, 2010<sup>[144]</sup>).



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