

# Impact of Immigration on Demography, Human Capital and Segregation in Sweden, Norway, Denmark and Finland from 2026 to 2100

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## Abstract

Immigration into Nordic countries significantly impacts their population composition, which in this study includes the following cultural subpopulations: the native population, the Western foreign-origin population, the Muslim population and the non-Western, non-Muslim foreign-origin population. If current immigration and birth rate trends continue, the native populations of Sweden, Norway, Denmark and Finland are projected to become minorities within this century. Differences in culture and human capital among these subpopulations have led to segregation in residential areas, schools, employment and marriages in these countries, which were once among the most homogeneous and egalitarian societies. Human capital is measured by the Human Capital Index (HCI). Because HCI correlates strongly with intelligence quotient (IQ), we focus on IQ, as there is considerably more data available on IQ than on HCI. Cultural differences among subpopulations served as the initial cause of residential segregation. This segregation has been reinforced by IQ gaps of 10-20 points between natives and certain immigrant groups. One reason is that differences in children's cognitive abilities are immediately reflected in teaching difficulties. This reinforces residential segregation, as natives and successful immigrants tend to avoid schools with many low-performing immigrant students. IQ differences also contribute to wage gaps, which deepen residential segregation due to varying living costs across neighbourhoods. Disparities in living standards and the low average IQ of some immigrants make them vulnerable to higher crime rates, which further reinforce residential segregation, as natives and successful immigrants tend to avoid many immigrant neighbourhoods for safety reasons. The average IQs of these Nordic countries, which were previously around 100, are projected to decline to 90-94 by the end of the century due to demographic shifts. Additionally, the article discusses the political measures proposed to dismantle segregation and stop the demographic changes.

**Keywords:** Immigration, Nordic countries, Demography, Human capital, IQ, Segregation, Remigration

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## 1 Introduction

Immigration to Nordic countries is leading to unprecedented demographic changes. We will first describe these changes by dividing the population into four culturally defined subpopulations and producing population projections for each of them.

The article then discusses the segregation of society in residential areas, schools, employment and marriages. We primarily concentrate on Sweden, which has the largest population with a foreign background and where many books and reports are written about segregation. Iceland had to be excluded from the following discussions because there was insufficient data to establish demographic models using the cohort-component method; however, Statistics Iceland provides much information on the country's immigrant population.

The cultural differences among ethnic and religious groups naturally led to the segregation of residential areas, as people tend to prefer living with those similar to themselves. In Sweden, this tendency is often explained by a phrase that, when translated literally, sounds like: 'Similar children play best'. The corresponding English proverb is 'Birds of a feather flock together'. In social science, this tendency is referred to as homophily ("Homophily", 2025).

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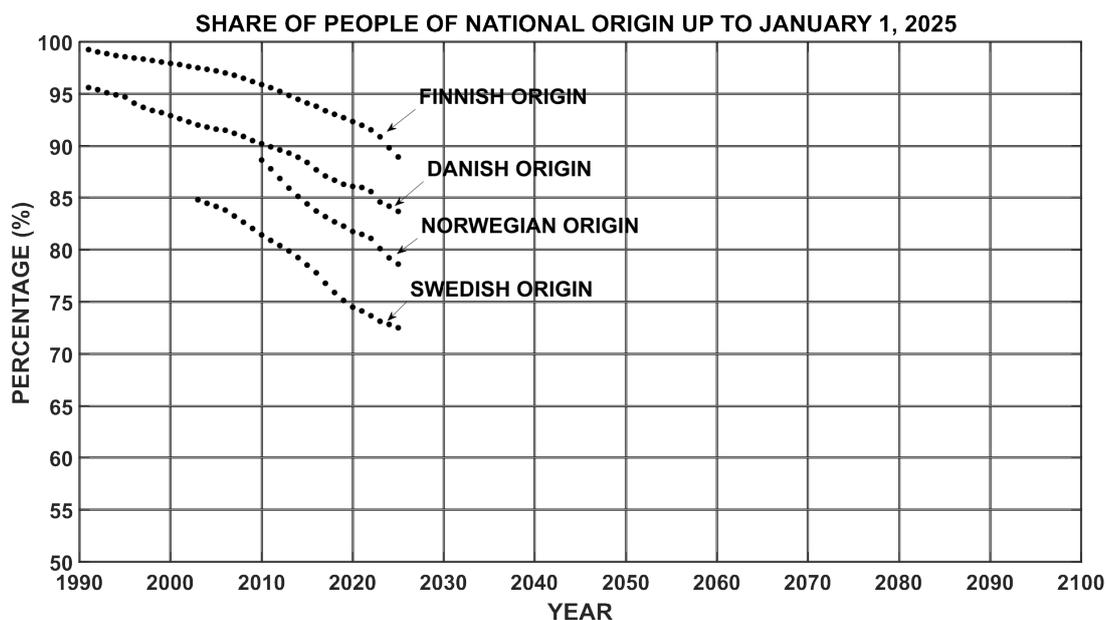
Segregation has been further reinforced by differences in human capital. We focus on its most important component, general intelligence, which is measured by the intelligence quotient (IQ). Basic information on IQ is provided. It is explained how to estimate the average IQs of the four subpopulations and project each country's average IQ using demographic forecasts. Drawing on general IQ research and Swedish reports on the social consequences of immigration, it is explained how IQ differences contribute to societal segregation.

Besides the cultural and IQ differences among subpopulations, there are also variations in personality traits, which are more difficult to define and measure. Therefore, they are not discussed in this article, although these traits relate to the core characteristics and lifestyles of ethnic groups. Daun (1996) has written an in-depth, research-based study on Swedish mentality. There is a noticeable similarity in the mentality and attitudes of all Nordic nations, which is reflected, for example, in the fact that since 1954, Nordic citizens have been free to move to and reside in other Nordic countries. Finally, policy measures proposed to reduce segregation and stop demographic changes are discussed.

## 2 Demographic changes caused by immigration

### 2.1 Demographic projections for subpopulations up to 2100

Coleman (2006) categorised the rapid demographic changes caused by immigration as the third demographic transition. He estimated that if the trends continue, Sweden will have a majority of foreign-origin population by the end of the century.



**Figure 1:** Historical share of people of national origin in four Nordic countries.

The data is directly obtained from the Nordic statistical centres regarding the proportions of the population by national origin (Statistics Denmark, 2025; Statistics Finland, 2025; Statistics Norway, 2025; Statistics Sweden, 2025). According to the common main principle of the Nordic statistical centres, an individual is of national origin if the individual and at least one parent is born in the country. The trends in Figure 1 suggest that Nordic people of national origin will become minorities during this century if immigration continues at the current rate.

We delineate demographic changes caused by immigration using three previously applied subpopulation partitions: the national-origin/foreign-origin division used by all Nordic statistical centres (cf. Figure 1), the Western/non-Western partition employed by Statistics Denmark and the Muslim/non-Muslim classification

considered by the Pew Research Center (2015, 2017). Thus, we project the demographic development of the following subpopulations: (1) the native population, (2) the Western foreign-background population, (3) the Muslim population, and (4) the remaining group, or the non-Western, non-Muslim foreign-background population. In this model, the native population includes also those non-natives who marry a native, as these foreign spouses slowly alter the native population.

This cultural division is essentially the same as the country division used in Denmark by the Finansministeriet (2021), where the country group MENAPT comprises 24 Muslim-majority countries, corresponding to the Muslim subpopulation in the present study.

Table 1 presents subpopulation projections for Sweden using the cohort-component method<sup>1</sup> (Preston et al., 2001). The forecasts mainly assume the continuation of 2024 figures: a net immigration of 22,050 foreign-origin people (excluding Ukrainian refugees); among these immigrants, Westerners' share is 48% and Muslims' share is 23%. The total fertility rate (TFR) is 1.47 for non-Muslims and 2.7 for Muslims, but the latter is assumed to fall to 2.1 by 2100.

It is assumed that the TFR for non-Muslims remains stable, as the decrease in their TFR seems to have levelled off, and monetary support for childbirth doesn't work in general (Kirkegaard, 2025). The TFR among Muslim immigrants has also been decreasing in Western countries. However, encouragement from imams and Muslim politicians to halt or even reverse this decline might be more effective than efforts by Western politicians. For example, President Erdogan has called on Muslim emigrants in Europe to have five children to help establish a new Europe (AP, 2017). In any case, demographic outcomes are unlikely to be significantly affected by potential future changes in Muslims' TFR. For instance, even if we, in line with Pew Research Center (2017, Appendix A), assume that Muslims' TFR will match that of native populations by 2100, the proportion of Nordic native populations will only increase by 1-2 percentage points by that time. The details of the considered subpopulations and the demographic model are provided (Tarvainen, 2018, 2025).

**Table 1:** The sizes of four Swedish subpopulations from 2015 to 2100.

Year (Jan 1)	Natives	Western foreign-background people	Muslims	Non-Western, non-Muslim foreign-background people
2015	7,655,000	786,000	535,000	772,000
2020	7,687,000	881,000	853,000	1,035,000
2030	7,523,000	1,008,000	1,110,000	1,210,000
2040	7,278,000	1,082,000	1,296,000	1,278,000
2050	6,995,000	1,161,000	1,496,000	1,359,000
2060	6,597,000	1,233,000	1,688,000	1,429,000
2070	6,149,000	1,295,000	1,836,000	1,447,000
2080	5,680,000	1,345,000	1,945,000	1,423,000
2090	5,113,000	1,405,000	2,031,000	1,395,000
2100	4,551,000	1,461,000	2,115,000	1,378,000

<sup>1</sup> The cohort-component method is a straightforward arithmetic procedure. It starts with the age distribution of the considered subpopulation at the beginning of a given year. If, for example, there are 40,000 people aged 30 at that time, then at the beginning of the following year there will be 40,000 people aged 31, from which the number of people who have died during the year is subtracted and new 31-year-old immigrants are added. A special case is 0-year-olds, whose number at the beginning of the year is calculated by adding up the children born to women aged 15 to 49 during the previous year. The needed historical data is obtained from the tables of statistical centers.

Population development is quite similar in Denmark, Norway and Finland. Table 2 presents the projected subpopulation shares for 2100 across the four Nordic countries (Tarvainen, 2025). The figures in Table 2 illustrate how continued immigration would lead to unprecedented demographic shifts.

**Table 2:** Projected subpopulation shares in 2100

	Natives	Western foreign-background people	Muslims	Non-Western, non-Muslim foreign-background people
<b>Sweden</b>	48%	16%	22%	14%
<b>Norway</b>	49%	24%	18%	9%
<b>Denmark</b>	49%	18%	13%	20%
<b>Finland</b>	35%	8%	26%	31%

## 2.2 Demographic changes initiate segregation

In this section, we explain how demographic changes have led to societal segregation. We reference books and studies that offer a more detailed account of these social issues. Our focus is on Sweden, which is the Nordic country with the largest immigrant population both in absolute terms and as a proportion of the national population.

The most comprehensive research-based summary of the socioeconomic effects of immigration on Sweden is the book by Sanandaji (2020), *Mass Challenge—The Socioeconomic Impact of Migration to a Scandinavian Welfare State*. Sanandaji arrived in Sweden as a 9-year-old Kurdish refugee, enabling him to offer insights into immigration issues from the perspective of immigrants. He often emphasises the importance of human capital but does not analyse its variation between population groups quantitatively, as will be done below.

A central theme of Sanandaji's book is residential segregation, which has led to the formation of parallel societies. Residential segregation began when many immigrants naturally settled in areas where earlier immigrants of the same ethnic, religious or cultural background had already established themselves and could provide support to the newcomers. Many refugees and migrants, particularly those from non-European backgrounds, continue to reside in the neighbourhood where they first arrived (Vogiazides, 2020). As the number of immigrants in a municipality increased, native Swedes began to move out or avoid the area for cultural and other reasons, as discussed below in relation to human capital.

The research by Aldén et al. (2018) examined when this phenomenon, often called 'white flight', started in the twelve largest Swedish municipalities. It was observed in nine municipalities, where it began once the proportion of non-European immigrants exceeded an average of 4.1% (range: 1.3%-19.0%). This segregation of residential areas has been sociologically analysed in a report by Lilja (2015), titled 'The best for my child'. A Swedish parliament member recounts the historical development of the country's immigration policy that led to segregation and the creation of parallel societies (Eriksson, 2023).

The city of Borås examined the differences between Muslim and traditional Swedish populations, noting, for example, that the Muslim community has its own jurisprudence (Borås Stad, 2019). In areas with a substantial Muslim population, a new cultural trait in Sweden is that Muslims predominantly feel a sense of belonging to their clan rather than to Swedish society as a whole. Muslims are generally organised into clans (a form of tribe) in their home countries, and they mostly uphold the clan system as immigrants in Western countries.

An in-depth analysis of clans and Islamist separatism is provided in the book by Rojas and Hannah (2023). The Clapham Institute's report by Pasbakhsh et al. (2022) systematically compares Swedish and Islamic cultures and values. These differences have also led to some confrontations (e.g., ("2022 Sweden riots", 2023)). A French security report warns of the spread of the radical Muslim Brotherhood ideology in Sweden (Le Monde, 2025). Egyptson (2023) has authored a doctoral thesis on the influence of the Muslim

Brotherhood in Sweden. The Muslim population in traditionally Lutheran countries has sparked numerous debates, especially in Sweden, where the Muslim community now accounts for 9% (Tarvainen, 2025). In accordance with the principle of religious freedom, official attitudes towards Lutheranism and Islam do not differ.

A notable study on the cultural implications of demographic development in Sweden is the study by Jonsson et al. (2022) on integration. Its subtitle summarises the development: 'A multicultural generation is growing up'. Until the mid-1970s, most immigrants to Sweden were European workers. Because their culture closely resembles that of Sweden, these Europeans integrated into Swedish society and often assimilated into the native Swedish population through marriage. However, the situation changed when more immigrants arrived from outside Europe. Many of these immigrants hold a high regard for their own culture. For example, in the integration study by Jonsson et al. (2022, Figure 6.24), 57% of 14-year-old respondents with backgrounds in Asia and 79% of those with backgrounds in Muslim countries supported the statement: 'Immigrants should do everything they can to preserve their culture and traditions.'

A sign of cultural shifts in Sweden is that, according to the reading study of PIRLS (PIRLS, 2021, Figure 3.6), only 53% of children aged 10 in Sweden always use Swedish at home. Around 150 different mother tongues are spoken in Sweden. In some regions, Swedish is a minority language, which limits opportunities to learn it.

During the 2022 parliamentary election campaign, politicians extensively evaluated Sweden's development. For instance, politicians who had migrated as refugees expressed their gratitude and appreciation for multicultural Sweden. However, many politicians emphasised societal issues. The Social Democrat Prime Minister, Magdalena Andersson, stated that the country has failed to integrate many immigrants, leading to a nation of parallel societies living in different realities (Guardian, 2022).

Also, the new centre-right Swedish government highlighted integration problems in its statement (Government of Sweden, 2022) in October 2022: 'Immigration to Sweden has been unsustainable. The result has been dangerous social exclusion among many people born in other countries, but also among children and young people born here in Sweden. The integration problems now affect all of society in the form of housing segregation and overcrowding, unemployment and benefit dependence, health problems and poor school outcomes, crime and vulnerability to crime'.

The new Swedish government decided to restrict immigration in October 2022 (Tidöavtalet, 2022). However, in Figure 1, there is only a slight change in the slope of the curve for the Swedish-origin population in recent years. Denmark has already implemented over 100 immigration restrictions for cultural reasons in the last 20 years (Reynié, 2023). Nevertheless, Figure 1 shows that the Danish native population is declining at roughly the same rate as other Nordic native populations. However, Table 2 indicates that Denmark has managed the cultural goal better than other Nordic countries regarding Muslims, who, in the World Cultural Map (WVS, 2023), are located in the opposite corner to the Nordic countries (Figure 2).

Next, we extend the previous analysis by examining the effects of gaps in human capital between natives and certain immigrant groups. Roughly half of the segregation and other immigration issues are explained by cultural and personality differences, while the other half stems from differences in human capital. The high human capital of some immigrants benefits public finances; however, overall, current immigration in Nordic countries is detrimental to public finances, as shown by Tarvainen (2025) and its references.

### **3 Differences in human capital reinforce segregation**

#### *3.1 On the relationship between the Human Capital Index (HCI) and intelligence quotient (IQ)*

Immigration to Nordic countries brings in people whose cultures differ substantially from those of traditional Nordic societies. Additionally, there are differences in human capital, a crucial factor in the industrial and post-industrial Nordic countries. 'Human capital includes knowledge, talents, skills, abilities, experience, intelligence, training, judgment and wisdom possessed individually and collectively' (Britannica, 2025).

### The Inglehart-Welzel World Cultural Map 2023

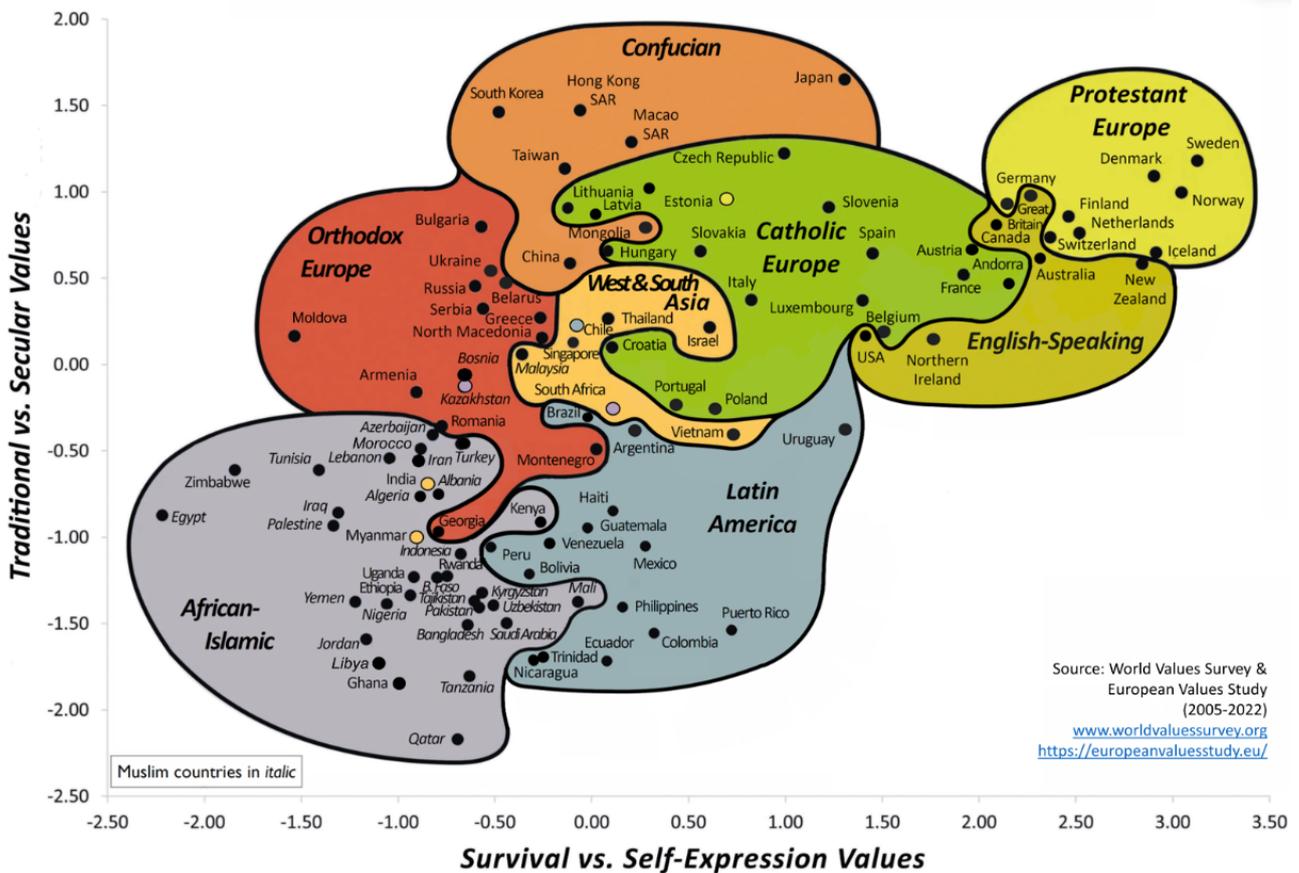


Figure 2: World cultural map (WVS, 2023).

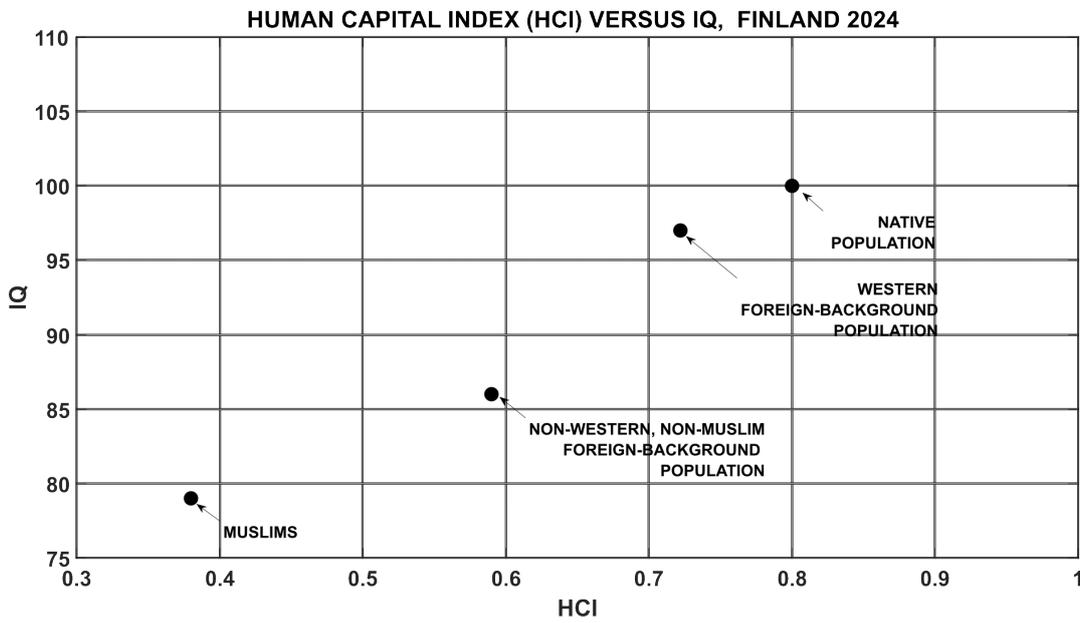
Hafer and Hafer (2018) established a strong correlation of  $r = .69$  between the Human Capital Index (HCI) values of countries (World Economic Forum, 2015) and their national IQs (Lynn & Vanhanen, 2012). The national IQ of a country refers to the estimated average IQ within that country.

Similarly, Figure 3 shows a strong correlation between HCI and IQ in Finland across the considered four subpopulations (correlation coefficient of  $.98$ ,  $p = .02$ ). The same pattern is observed in the other Nordic countries. In Figure 3, the average IQ scores for each subpopulation are calculated by weighting the national IQs of the background countries (Lynn & Becker, 2019) based on the number of individuals with backgrounds from those countries. In Section 3.3, it is demonstrated that the average IQ of a Nordic subpopulation of foreign origin can be estimated by using the national IQ scores of the background countries. Likewise, the HCI scores of the subpopulations are determined using the HCIs of the background countries. The most recent HCI scores defined by the World Bank (2025) are used.

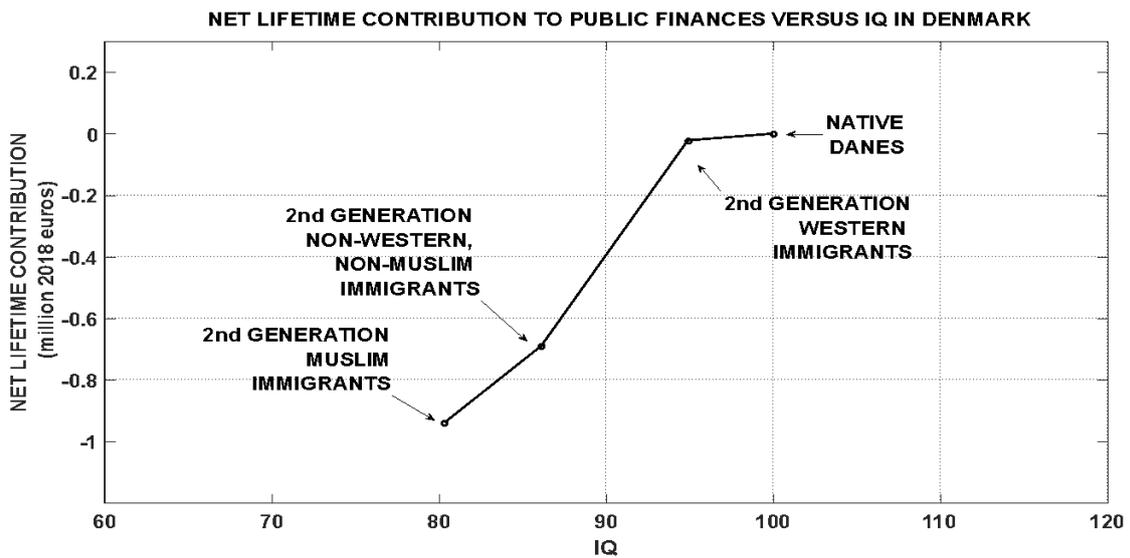
Hafer and Hafer (2018, Figure 2) also observed that gross domestic product per capita correlates almost as well with the average IQ as it does with HCI. Similarly, Figure 4 illustrates the strong economic impact of average IQ on the mean lifetime net contribution to public finances in Denmark across the four subpopulations. The contribution of the natives is normalised to zero for comparison purposes. The correlation coefficient is  $0.97$  with a p-value of  $.03$ ; details are provided by Tarvainen (2025). A corresponding correlation is observed also when, instead of subpopulations, different background countries are considered in Denmark and Finland (Kirkegaard, 2017).

Additionally, Hafer and Hafer (2018, Table 2) observed that IQ has a positive correlation with many components of HCI. They concluded that all their findings suggest that both HCI and the country's average IQ are viable statistical measures of human capital.

Accordingly, regarding human capital, we focus on its core element, cognitive abilities, and its measure,



**Figure 3:** Relationship between the Human Capital Index (HCI) and intelligence quotient (IQ) in four Finnish subpopulations.



**Figure 4:** Lifetime net contribution to the public finances as a function of the subpopulation's average IQ in Denmark.

IQ, which has been studied for over a hundred years. IQ is generally regarded by intelligence researchers as a very accurate measure of the construct of general intelligence, with substantial explanatory power for understanding human behaviour and life.

### 3.2 On the general understanding of IQ

The term 'human capital' relating to countries is widely used with only some criticism ("Human capital", 2025). However, national IQs, the average IQ values of countries, are a taboo subject in the mass media. This is strange because of ample evidence that national IQ and the results of international scholastic assessments are highly correlated at about  $r = .9$  (Rindermann, 2018, Figure 4.2). This means that at the aggregate level, these kinds of tests measure the same thing. Therefore, it is odd that national IQ scores are a taboo subject, although the PISA program is celebrated as a major achievement.

In contrast, when it comes to individuals' IQ, the media generally has no problem discussing IQ. For example, *Helsingin Sanomat*, the largest Finnish newspaper, has covered individual IQs in 48 articles over the past five years. Nine articles mention an individual's measured or estimated IQ, while 18 articles refer to specific studies on individuals' IQ. Furthermore, many people are familiar with the international organisation Mensa, which requires its members to have a high IQ.

Nevertheless, even on an individual level, many misconceptions exist about the definition, measurement and importance of IQ. Warne (2020) discusses 35 misconceptions and explains, based on scientific research, why they are myths.

Given the thousands of scientific books, surveys and articles on IQ, recent authoritative overviews of scientific research are valuable. Haier et al. (2024) authored the 400-page summary of all areas of intelligence studies, *The Science of Human Intelligence*. The book by Rindermann (2018), *Cognitive Capitalism*, is a 550-page overview focusing on scientific studies of the differences in average cognitive abilities among nations.

While the term IQ is familiar to most people, the fact that its average value varies across countries is not widely recognised. *Helsingin Sanomat* has never addressed this issue. Nordic politicians can discuss demographic changes and cultural differences, especially in relation to Islam. However, the author has never heard a Nordic politician mention the varying average IQs of countries or immigration groups, even though politicians could learn about these matters from scientific literature and Nordic social media.

Politicians and journalists could also look at the PISA scores. The PISA organisers write: 'PISA goes beyond assessing whether students can reproduce what they have learned in school. To do well in PISA, students have to be able to extrapolate from what they know, think across the boundaries of subject-matter disciplines, apply their knowledge creatively in novel situations and demonstrate effective learning strategies' (OECD, 2019). Here, one can note that the abilities listed by the OECD are a perfect definition of intelligence. It means the PISA tests also are intelligence tests, and they work well, as noted above.

Perhaps the mass media's reluctance to mention the average IQs of countries and population groups stems from underestimating the public: It is feared that if a low average IQ is reported, people might believe all members of that group share this low IQ. However, everyone within a group can see that there is considerable variation in cognitive abilities: Some individuals are more intelligent than others. One possible way to prevent the feared misconception could be to present data showing the IQ range that covers 95% of a country's population. For example, we might state that the IQ of the British is  $100 \pm 30$  points, whereas in another country, the national IQ might be, for instance,  $90 \pm 30$  points.

As explained below, the differences in average IQs between subpopulations are sufficiently significant and damaging to Nordic societies that it would be irresponsible not to treat them scientifically. When formulating immigration policies, it is essential to ensure they do not create significant IQ disparities within the country. As early as 1869, Francis Galton discussed the impact of immigrants' abilities on a country's success (Lynn, 2011, p. 280).

Based on flawed principles of equality, some individuals who are not intelligence experts deny the existence of IQ differences across countries and groups. They wish to believe that all people not only share

the same human value but are fundamentally alike in human traits. The following points demonstrate that, by ignoring the findings of scientific IQ research, they are doing a disservice to many people

1. IQ studies show that consanguineous marriages (marrying cousins) tend to lower the average IQ of the children (Rindermann, 2018, pp. 313–316). Therefore, such marriages should be discouraged. Since they are common among some immigrant groups, Norway banned them in 2024. The Swedish government is planning a similar ban.

2. In countries with low average IQ, every effort should be made to address physical and biological environmental factors (for example, lead, fluoride, pregnancy conditions, breastfeeding and nutrition) that can affect IQ (Rindermann, 2018, Section 3.4.4), and effective support should be provided at various levels of ability (Rindermann, 2013). Even if a person's IQ is low, they can still learn useful skills in an appropriate learning environment.

3. In countries with a low average IQ, the selection of government officials should also include cognitive tests, such as those already used in ancient China and currently employed by the EU (European Personnel Selection Office, 2025, see 'logical reasoning tests').

4. In countries with notable IQ differences, achievement tests or IQ tests can be used to allocate students to different classes or schools, thereby ensuring that there are no large IQ disparities within a class, which can hinder learning.

The average IQ of countries and subpopulations is a crucial issue because IQ, on average, is highly heritable. The heritability effect has been estimated at 80% among adults when all genes are fully expressed (Haier et al., 2024, Section 6.3). Besides immigration, a significant factor that can gradually influence a country's or subpopulation's average IQ is whether individuals with high or low IQ have more children (Dutton & Woodley of Menie, 2018).

### 3.3 *Assessing the average IQ of Nordic subpopulations*

In the following IQ forecasts, it is estimated that the average IQ of individuals immigrating to a Nordic country is roughly equivalent to the average IQ in their country of origin. However, this does not hold true for all countries receiving immigrants (Rindermann, 2018, Table 10.2). For instance, English-speaking countries attract talented immigrants from across the globe who speak English. The following list provides some examples supporting the mentioned estimation.

- In Denmark, Kirkegaard (2013) observed that the IQ data from the military draft for the foreign-background population practically give the same IQs as determined based on the average IQs of background countries.
- Rindermann and Thompson (2016, p. 75) obtained an IQ estimate of 93.75 for Sweden's foreign-background students born between 1985 and 1997, based on PISA, TIMMS and PIRLS results. Statistics Sweden does not publish information on individuals of foreign background born during these years. However, Statistics Sweden earlier provided information on the countries of origin of people living in Sweden in 2000. Using the national IQs of these background countries, the IQ of foreign-born residents in Sweden in 2000 was estimated to be 92. This figure is close to the mentioned value of 93.75 for foreign-background students born between 1985 and 1997.
- The Swedish Integration Study (Jonsson et al., 2022, p. 264) reports on a test involving young people aged 14. The test consisted of two parts: an intelligence test and a language test, which have also been proven to be effective measures of intelligence. The median score was 38 for young people of Swedish origin and 33 for those from 'Generation 2', who were born in Sweden with both parents born abroad. Because the test's standard deviation is 8 points, the difference between the scores is 0.63 standard deviations. On the other hand, when the corresponding difference is calculated based on the IQs of the background countries (cf. Table 3), the difference is approximately the same, 0.71 standard deviations.

- In the initial tests of the Finnish pre-primary education experiment (Sarvimäki et al., 2023), children aged 5 to 6 years whose parents were born in Finland scored 0.80 standard deviations higher on an arithmetic test than those whose parents were born abroad (p. 59 in the report). In a literacy test, the corresponding difference was 0.77 standard deviations (p. 51 in the report). The difference between the average IQs of native Finns and people in the children's background countries is nearly the same, 0.74 standard deviations.

In these studies, we first pay attention to the details regarding the first- and second-generation immigrants. At the end of Section 3.4, the Danish school results suggest that second- and third-generation immigrants have the same average IQ. However, many studies suggest that the average IQ of first-generation immigrants is somewhat lower than that of the second generation. For example, in the 2022 PISA mathematics test (PISA, 2023), this score difference was 18.75 PISA points on average across the four Nordic countries, which corresponds to  $18.75/6.5 = 2.9$  IQ points.

The main reason for this is clearly that first-generation immigrants have not learned the host country's language from birth. Therefore, they encounter difficulties in learning mathematics and answering PISA questions, which results in a lower IQ estimate than their actual IQ. However, first-generation immigrants encounter similar challenges in their lives as in their studies and the PISA test. Therefore, we can regard their IQ estimates based on PISA or other tests as effective IQ scores.

Regarding the proportions of first- and second-generation immigrants in the four studies mentioned above, we have the following information. In the second study, the shares of first- and second-generation immigrants were not detailed. The third and fourth studies consider second-generation immigrants. According to the author of the first study, this group is most likely primarily composed of second-generation immigrants.

Therefore, in these four studies, second-generation immigrants are probably overrepresented since their share of the Nordic immigrant population was only 22% in 2019 (Mixed Migration Centre, 2024). This means that these four studies possibly slightly (by 1-2 IQ points) overestimate the current immigrant population's average IQ. However, as the proportion of second-generation immigrants increases, this potential overestimation decreases.

Overall, the available tests indicate that the average IQ of the immigrant population in Nordic countries is approximately the same as in their countries of origin. As mentioned, the situation is not the same in all countries. For example, in the UK, PISA results and school grades indicate that immigrants' average IQ is approximately the same as that of native Brits.

As a side note, we would like to mention that PISA reports and other studies often reveal a lack of knowledge about intelligence studies when attempting to explain the poor results of some immigrant students by referring to their parents' low socioeconomic status. However, IQ studies demonstrate a strong link between IQ and socioeconomic status (Haier et al., 2024, Figure 7.6). This implies that the main reason why some immigrants with parents of low socioeconomic status perform poorly in school is their inherited low IQ.

Lynn and Vanhanen (2002) wrote the first book to list the average IQs of the world's countries. They later updated the list (Lynn & Vanhanen, 2012). In the present study, we have utilised the national IQ estimates from Lynn and Becker's book (Lynn & Becker, 2019, Table 16, second-to-last column).

The lists of national IQs have been criticised because over 30 countries still lack psychometric IQ tests or international student assessments, which can be used to estimate IQ. The average IQ of these countries is estimated as the mean of the measured average IQs of the adjacent countries, as the national IQs of neighboring countries correlate. This estimation introduces inaccuracies, but fortunately, individuals from these countries who lack their own IQ measurements make up only 0.8%-1.4% of the total foreign-background population in the Nordic countries. Therefore, these countries do not significantly impact the accuracy of the current study.

Some individuals have questioned the accuracy of the low national IQs for sub-Saharan countries. However, more recent studies (Warne, 2022) support these low IQ estimates. In Nordic countries, the largest sub-Saharan immigrant group is Somalis. For example, comparisons of different immigrant groups' educational attainment (Statistics Sweden, 2022, Diagram 6) and net contributions to public finances

(Kirkegaard, 2017, Figure 3) confirm that this sub-Saharan group's average IQ is somewhat lower than that of all Muslims.

Naturally, there are some inaccuracies in national IQ estimates, as there are in all measurements of human traits. In this study, these inaccuracies are not critical for two reasons. Firstly, we do not consider the average IQs of singular foreign countries, but rather the average IQs of subpopulations, which are weighted averages of the IQs from over 40 background countries, like those in Figures 2 and 3. In these weighted averages, the inaccuracies in the national IQs of individual countries tend to be reduced and partly cancel each other out. Secondly, some Nordic subpopulations exhibit such large differences in average IQ that measurement errors cannot account for them.

Nyborg (2011) was the first researcher to predict changes in the average IQ of a Nordic country due to immigration. We develop Nyborg's methodology and provide IQ predictions for the four Nordic countries. We first examine the current IQ values, which serve as the basis for these projections.

### 3.4 Assessing the average IQs of subpopulations in 2025

Lynn and Becker (2019) provide the following national IQs for Nordic countries: Finland, 101.2; Sweden, 97.0; Norway, 97.1; and Denmark, 97.8. The influence of a significant immigrant population is evident in the last three values. Consequently, we use a common rounded IQ estimate of 100 for the native populations of the Nordic countries. We determine the average IQs of the foreign-background subpopulations as of January 1, 2025, by weighting the IQs of the background countries (Lynn & Becker, 2019) according to the number of individuals from the background country. Table 3 summarises the obtained average IQs of the subpopulations.

**Table 3:** Average IQs of subpopulations on January 1, 2025, based on Lynn and Becker's 2019 book. For the rounded IQ values of natives, see the main text.

Subpopulation	Finland	Sweden	Norway	Denmark
Natives	100	100	100	100
Western people of foreign origin	97.0	96.8	95.5	95.0
Muslims	79.1	79.3	78.1	80.3
Non-Western, non-Muslim people	86.6	88.8	86.6	86.1

The Muslim IQs in Table 3 are close to the average IQ of 81 for all Muslim countries, as determined by Templer (2010). The notable IQ differences among subpopulations are immediately visible in schools. In Sweden, there are 'adapted primary schools' for pupils with intellectual disabilities (Skolverket, 2025). In line with Table 3, pupils with a foreign background are over-represented, making up 45% compared to 27% in standard primary schools. Similarly, the decline in Swedish pupils' PISA test scores is partly due to the lower average scores of pupils from foreign backgrounds (Skolverket, 2023, Chapter 6).

In Danish primary schools, it has been recorded that 3<sup>rd</sup>-generation non-Western immigrants perform at the same level as 2<sup>nd</sup>-generation non-Western immigrants, a level that is notably lower than that of students of Danish origin (Statistics Denmark, 2024, Figure 8.5). Non-Western boys' average grades across all compulsory examinations for the school leaving certificate in 2022-2023 were 5.5 for 3<sup>rd</sup>-generation immigrants and 5.7 for 2<sup>nd</sup>-generation, whereas it was 6.7 for boys of Danish origin. The corresponding figures for girls of non-Western origin were 6.3 (third generation), 6.2 (second generation) and 7.4 (Danish origin).

We can understand the grade improvement that happens from first to second generation by the fact that first-generation immigrants have not learned Danish from birth. The lack of improvement between the second and third generations can be understood by thinking that they have reached their genetic IQ limitations: Academic performance in primary education correlates strongly ( $r = .58$ ) with IQ (Haier et al., 2024, Table 8.1), and both have high heritability.

### 3.5 Projections of the country's average IQ

When the population composition changes due to immigration, the country's average IQ also changes because of variations in the average IQs of the subpopulations (Table 3). In IQ projections, we utilise the demographic forecasts discussed earlier, which indicate the direction in which we are currently heading.

Regarding the future average IQs of the subpopulations, we estimate they will remain consistent with those shown in Table 3. This is because immigrants often relocate to countries where their compatriots and relatives live, and individuals from foreign backgrounds living in Nordic countries frequently import foreign spouses from the same ethnic or cultural background.

There is also some mixing of subpopulations through marriages, but this only slightly alters the average IQs of the subpopulations. The reason is that such marriages are relatively rare among all marriages; for example, the probability that a native marries a non-native is 6%-8% in Nordic countries (Tarvainen, 2018). Furthermore, spouses' IQs tend to be strongly correlated (Plomin & Deary, 2015). Statistics Sweden previously published data on the birth countries of foreign spouses of individuals born in Sweden. Assuming that these foreign spouses have the same average IQs as those in their country of origin, it was estimated that mixed marriages involving Swedish natives lowered the natives' average IQ by only 0.3 points in 2021. A similar, relatively small IQ effect is also likely for mixed marriages within the Western population for the same two reasons.

Overall, a reasonable estimate is that the future average IQs of the immigrant subpopulations will reflect the IQ levels of the subpopulations listed in Table 3. However, future shifts in a subpopulation's immigrant composition could slightly alter its average IQ. For example, Sweden and Finland have recently increased the minimum wage for workers from outside the EU, which, to some extent, may raise the average IQ of these work-related immigrants and the overall average IQ of their subpopulation.

The average IQs could also change in the countries of origin. However, here we observe notable historical stability (Rindermann, 2018, Chapter 4). According to the IQ development scenarios presented by Rindermann (2018, Chapter 13) for different regions up to 2100, it is unlikely that IQ-related problems will be significantly alleviated in Nordic countries. For example, in extreme scenarios speculating on the Flynn effect (Haier et al., 2024, pp. 379–381) in developing countries, the above IQ gap of 20 points between the natives and Muslims (in Rindermann's book, 'people living in North Africa and the Middle East') would still be 10 points in 2100.

In light of the previous discussion, we estimate, for example, Sweden's average IQ in 2100 as the mean of the current average IQs of the subpopulations (Table 3), weighted by the sizes of these subpopulations in 2100 (Table 1, here unrounded):

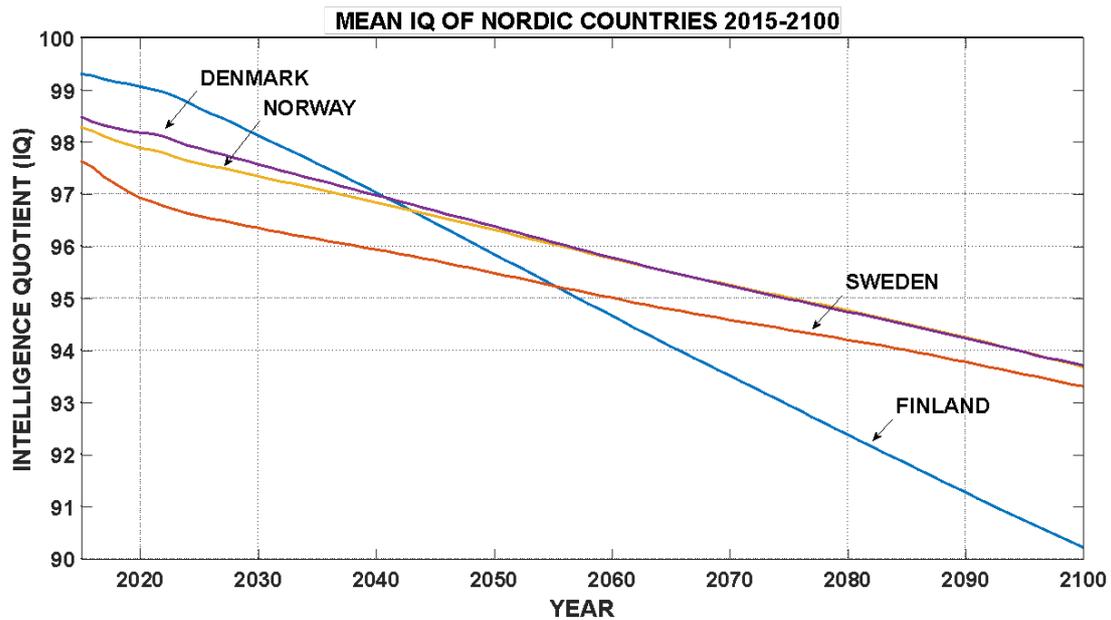
$$(100 \times 4551292 + 96.8 \times 1460673 + 79.3 \times 2115002 + 88.8 \times 1378492) / (4551292 + 1460673 + 2115002 + 1378492) = 93.3$$

That is, Sweden's projected average IQ is 93 in 2100. We similarly determine the forecasted IQ values for other years and Nordic countries, yielding the results in Figure 5.

According to Figure 5, Finland's average IQ is projected to fall below 90 in the early years of the next century. In the empirical study by Vanhanen (2009), it was observed that maintaining democracy becomes challenging when a country's average IQ drops below 90. Based on studies about the effects of average IQ (Lynn & Vanhanen, 2012), we can expect negative impacts on various aspects of life in the Nordic countries due to a decline in IQ.

In IQ studies, alongside the average IQ of a country, the average IQ of the most intelligent individuals, such as the top 5% of the population, is also considered (Rindermann, 2018, Section 8.1). It has a significant impact, for example, on economic and scientific development. Due to native and Western populations, the average intelligence of the top 5% in Nordic countries is very high (cf. Table 3) and remains so over a long period. For instance, Sweden ranks second, after Switzerland, among the 133 economies featured in the Global Innovation Index 2024 (WIPO, 2025). However, the high-IQ individuals in Nordic countries appear to have no significant influence on segregation and other issues caused by immigration.

Figure 5 shows that immigration significantly lowers the average IQ in Nordic countries compared to China, which has a national IQ estimate of 104. We cannot fully understand China's rapid economic and



**Figure 5:** Nordic countries' average IQs 2015–2100.

technological progress without considering its high national IQ. In China, supercomputers are searching for intelligence genes to improve the country's IQ through embryo selection (Miller, 2023).

### 3.6 IQ differences among subpopulations reinforce segregation

Richard Herrnstein was among the first researchers to propose that IQ differences — stemming from genetic inheritance and closely linked to earnings — contribute to hereditary societal inequalities (Herrnstein, 1971a, 1971b). He contended that American society was dividing into two strata due to assortative mating: (1) the wealthy and more intelligent individuals, and (2) the less wealthy and less intelligent individuals.

According to Plomin and Deary (2015), assortative mating is stronger for intelligence (spouse correlation  $r = .40$ ) than for other behavioural traits, such as personality and psychopathology ( $r = .10$ ), or physical traits, like height and weight ( $r = .20$ ). However, let us note that assortative mating for some traits, such as political values ( $r = .58$ ) and religiosity ( $r = 0.57$ ), is even stronger (Horwitz & Keller, 2022). Various reasons besides heritable cognitive abilities have been suggested for the stratification of Western societies. However, cognitive abilities are now regarded as the most significant factor (Marks, 2022; Marks & O'Connell, 2023).

In Nordic countries, social stratification has long existed, resulting in some segregation in residential areas between the wealthy and the less affluent. However, due to shared ethnicity, language, religion and culture, the poor and rich have been able to live near each other (Boverkett, 2023, the figure on p. 14). Today, immigration contributes to the growth of large-scale, segregated residential areas.

As discussed earlier, residential segregation initially emerged naturally due to cultural differences. Significant IQ disparities reinforce this separation and the formation of parallel communities for the following reasons. First, teaching students with significant differences in cognitive abilities is very demanding, and school achievement suffers (Lindblad et al., 2018). The growth of foreign-background populations (cf. Table 1) suggests that if immigration continues at the current rate, teaching difficulties will become even more severe.

It has been observed that allocating additional teaching resources to schools with a high proportion of immigrant children does not significantly improve academic outcomes (Hellberg, 2021). In several experiments, immigrant students have been relocated to schools with fewer immigrant children; however, this change has not led to a notable improvement in their academic performance (Arneback et al., 2022).

The key cause of these educational shortcomings is clearly the relatively low average IQ among some immigrant groups (Table 3).

Due to poor study results, parents of native and successful immigrant students avoid schools with many immigrant students and move to areas with fewer people from foreign backgrounds (Lilja, 2015). As a result, issues related to significant IQ differences in schools contribute to the segregation of residential areas and schools.

Besides learning difficulties, IQ studies indicate that IQ differences cause variations in employment and wages, as also implied by Figure 4. Wage variations related to IQ further contribute to residential segregation, as house prices and rents differ greatly across neighbourhoods.

Furthermore, IQ studies indicate that lower IQ contributes to the higher crime rates among some immigrant groups. Accordingly, the head of a compulsory youth centre for young offenders told Eriksson (2023, pp. 45–46) that many young offenders are intellectually deficient and do not always grasp the consequences of their actions. The Swedish Crime Prevention Council Bra reports on suspected criminal offences among individuals with both domestic and foreign backgrounds (Brottsförebyggande rådet, 2021). Kirkegaard (2021) provides an illustrative English summary of the crime rates reported for individuals with a foreign background in the Bra study.

Organised crime led by individuals of foreign origin has increased significantly (Håggström & Brun, 2019; Polismyndigheten, 2023). In the high-trust Swedish society, criminals of foreign origin have managed to infiltrate numerous social institutions, gaining influence and income in businesses, banks, healthcare, local government, insurance companies, public authorities, the non-profit sector, the police and the judicial system (Wierup, 2024). The high crime rate in certain areas with a large number of individuals of foreign background is an additional factor that causes natives and successful immigrants to avoid these places.

In the worst case, cultural and cognitive differences lead to areas dominated by immigrants where school results are poor, many individuals do not speak Swedish well, unemployment is high, average earnings are low and living conditions are substandard, with significant crime. Esaiasson (2020) wrote an illuminating social report based on hundreds of interviews in two such neighbourhoods, which are often called 'vulnerable areas' or 'suburbs' in Sweden.

The Swedish police have classified 59 residential areas with low socioeconomic status, where criminals affect the local community, as vulnerable (Polisen, 2023). Out of their total population of approximately 550,000 individuals, 74% are of foreign origin. The report (Järvaveckan Research, 2019) offers insights into socioeconomic issues in vulnerable areas, the countries of origin of residents, and the concentration of people from specific origin countries. The report (Borås Stad, 2019) describes the problems within a single vulnerable area in the city of Borås.

Segregation within the Nordic countries also involves the segregation of workplaces and marriages. The report by Skans and Åslund (2010) is a comprehensive study of ethnic segregation in Sweden's residential areas, workplaces, schools and marriages from 1985 to 2006. Segregation in marriage is described using comparisons, as in the following example. A person born in Turkey is more than 70% likely to marry someone born in Turkey, whereas the probability of such a marriage would be only 2% if marriages were random.

A more recent 2022 report by Delegation mot segregation (2022) employs five distinct socioeconomic area types to illustrate socioeconomic residential segregation. The report indicates a sharp rise in segregation between 1990 and 2020. In Sweden, there is also an unknown number of undocumented, illegal immigrants working underground. The book by Alexandrova-Zorina (2023) describes the Russian-speaking shadow society.

## 4 Proposed strategies to dismantle segregation

Denmark is the Nordic country that has taken the most decisive action to dismantle and prevent the emergence of parallel societies. The 2018 'ghetto' legislation (Time, 2018) has been complemented by the 2021 parliamentary agreement and the government plan 'Mixed Neighbourhoods - The Next Step in the Fight against Parallel Societies' (Indenrigs- og Boligministeriet, 2021). This new plan covers 58

neighbourhoods at risk of becoming 'vulnerable' due to high crime rates, low educational levels, low income, high unemployment or a significant proportion of people with a non-Western background.

The goal is that in neighbourhoods with more than 1,000 residents, the percentage of individuals of non-Western origin should not surpass 30% by 2030. This will be accomplished by limiting movement into these neighbourhoods and renewing the housing stock by demolishing old buildings and constructing new ones. Those relying on subsidies might be restricted from accessing council housing and encouraged to apply for subsidised housing available in the private market. Critics worry that the government's plans will simply lead to the spread of segregation from highly segregated areas to other regions.

The Swedish Social Democratic Party also advocates for mixing different housing types to break down segregation (Socialdemokraterna, 2025). These plans involve constructing affordable homes for immigrants within neighbourhoods where natives reside. Consequently, the Social Democrats' proposals have met significant opposition — many natives now consider segregation the better option.

In fact, a small-scale mixing experiment is already underway in a district of Malmo, where people from various backgrounds live in different types of housing and share common gathering spaces. Jensen and Righard (2022) conducted a follow-up study on this experiment. The article by Jando (2023) describes this follow-up study and concludes that 'mixing people from different backgrounds is not enough to create cohesion and integration.' The other author of the follow-up study states that 'people still tend to associate with those who are most like them.'

## 5 Discussion

Most Nordic politicians and citizens initially viewed work-related immigration and refugees in a positive light. This attitude arose from the fact that Nordic countries have traditionally been culturally homogeneous, high-trust societies with a limited understanding of other peoples' core characteristics and cultures.

Additionally, the tolerant zeitgeist of the post-World War II era concealed the recognition of differences between cultures and peoples, leading most Nordic politicians and citizens to generally trust and welcome people from around the world — unlike, for example, Hungary, which had extensive historical experience, even after WW II, with foreign cultural influence and recognised the risks associated with immigration from different cultures. And they knew what had happened to multi-ethnic Austria-Hungary.

An astonishing demonstration of the Nordic attitudes and kindness towards all peoples is that, in 1975, Sweden's Parliament unanimously agreed that Sweden is a multicultural society. The parliament decided that 'Immigrants and minorities should be allowed to choose to what extent they want to merge into a Swedish cultural identity or maintain and develop their original identity' (Sveriges Riksdag, 1975).

Furthermore, there has been a lack of awareness about rapid demographic changes driven by even modest annual immigration. For centuries, Nordic countries have benefited from European immigrants who established new businesses and factories, introduced new knowledge, skills and technology. However, immigration from very different cultures has led to segregation and demographic shifts, as described above, which threaten the very existence of the Nordic nations.

Currently, a major motive for immigration in Nordic countries is the shortage of workers in specific professions, which stems from the declining number of working-age natives due to low fertility rates among the native population. However, the study by Lianos et al. (2023), which covers 19 countries, shows that even when the population declines and gross domestic product (GDP) decreases, the standard of living (as measured by GDP per capita) tends to improve. Therefore, to counteract the harmful demographic shifts also linked to some work-related immigration, Nordic countries need to develop strategies to adapt to declining populations until fertility rates increase.

In political discussions evaluating the effects of migration in these once homogeneous and egalitarian Nordic societies, the segregation discussed above has attracted the most attention. The demographic effects of immigration have received significantly less attention. However, as Figure 1 and Tables 1 and 2 demonstrate, the most serious long-term consequence of immigration for native populations is that they are becoming minorities if current trends persist. Furthermore, the influence of Islam continues to grow

steadily; for instance, the continuation of Table 2 suggests that by 2110, there will be as many Muslims as native-born people in Finland.

As shown by the example of the hundred immigration restrictions in Denmark mentioned above, and based on demographic analyses in general, immigration restrictions alone cannot halt or reverse this demographic change. Therefore, to preserve the Nordic cultures, it is also necessary for a part of the foreign-origin population to relocate to their countries of origin.

This remigration would align with the UN Declaration on the Rights of Indigenous Peoples (“Declaration on the Rights of Indigenous Peoples”, 2025), as the immigrant population is now leading the Nordic indigenous peoples into minority status (Figure 1 and Table 2). Discussion of remigration has recently begun in Nordic countries, with the first detailed possible remigration policies outlined in an article by Tarvainen (2024) for the Nordic countries and by Ahl et al. (2025) for Sweden.

In Denmark and Sweden, financial support is already available for individuals who voluntarily relocate to their country of origin, but few have taken up this opportunity. Therefore, mandatory emigration is also necessary to preserve Nordic cultures and the rights of indigenous peoples.

Discussions on remigration policies should recognise that the Nordic countries are responsible for accepting immigrants from diverse cultural backgrounds. Therefore, the Nordic countries have a duty to provide generous support to those who voluntarily or mandatorily move to their countries of origin — not only for travel expenses but also for establishing new lives there. Potential economic support is discussed in the article by Tarvainen (2021).

As mentioned above, the culture and mentality of Nordic nations are similar. On the World Cultural Map (Figure 2), all Nordic countries are grouped together in the upper right corner. In many international comparisons, all Nordic countries rank highly. To mark the 100<sup>th</sup> anniversary of Finland’s independence, Statistics Finland (2018) compiled a list of 89 international country comparisons of positive indicators in which Finland is among the top countries, alongside other Nordic states. The Nordic countries are thus unique and respected worldwide as exemplary models of society. Protecting the distinctiveness of the Nordic nations is as important as that of China and Japan, which were wise enough not to accept immigration from two hundred countries.

## Acknowledgement

The author is thankful to the anonymous reviewer for helpful comments and suggestions for improvement, and Professor David Coleman for continuous assistance.

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