University of Amsterdam
Amsterdam School of Economics

Borderless Welfare State

The Consequences of Immigration for Public Finances

Jan H. van de Beek
Hans Roodenburg
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Gerrit W. Kreffer

Do immigrants contribute to public finances?

Do welfare states attract and benefit immigrant groups?

Is immigration necessary to bear the costs of an ageing population?

What is the role of education and cultural factors in all this?

And what about the second generation?

A multidisciplinary team of four experienced researchers investigated this topic in the Netherlands. They had access to unique anonymised microdata from Statistics Netherlands on all inhabitants of the country. In estimating the fiscal impact of immigration, the net lifetime contribution of immigrants to public coffers was estimated by employing the method of generational accounting.

The result is this book, with the eloquent title Borderless Welfare State. It answers the questions, contains a wealth of previously unpublished information, and draws conclusions with strong policy relevance. The findings may inspire researchers and policymakers in other countries, particularly in Europe, with a comparable welfare state.

An earlier version of this book sparked debate in the Netherlands. The Dutch government stated that they did not need this type of information. One could only guess the underlying reason for this position. Is it the inconvenient message from Borderless Welfare State that, if immigration continues by the current numbers and composition, welfare states like the Dutch one become unsustainable?

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Hans Roodenburg (1943) studied economics in Rotterdam and worked for, among others, the CPB Netherlands Bureau for Economic Policy Analysis. There he led research into the economic consequences of immigration and was first author of the resulting CPB study *Immigration and the Dutch Economy* (2003). He has also published works on this theme in the Dutch media and in international scientific journals (see hansroodenburg.com).

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Joop Hartog (1946) is emeritus professor of economics at the University of Amsterdam, where he was appointed in 1981. Since his retirement, he has had a guest appointment. He studied in Rotterdam and Canada and has many national and international publications on education and the labour market to his name. He also wrote columns for Dutch newspapers for 15 years. He was a member of various government advisory committees, including the Council of Economic Advisers. He has been visiting professor in many places, including Stanford, the World Bank, Peking University and Harvard. In 2001 he was appointed member of the Royal Netherlands Academy of Arts and Sciences.

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Gerrit Kreffer (1951) is a sociologist (Leiden University) and Master of Public Administration (The Netherlands School of Public Administration). He has advised three ministries and the Municipality of The Hague on labour market and personnel policy. He led the 1000-job plan for ethnic minorities (EMO plan) and introduced the Knowledge base public administration (kennisopenbaarbestuur.nl). He was on the editorial board of the *Tijdschrift voor HRM* (*Dutch-language journal of Human Resource Management*) and the program committee of the Management Studies Foundation. He recently completed a double master's degree in Population Studies in Barcelona and Groningen, and is now conducting research in this field.

Preface

In a way, this report can be seen as an update and extension of the CPB report *Immigration and the Dutch Economy* from 2003[1]. That CPB report, among other things, calculated the costs and benefits for the treasury of non-Western immigration at the time. Since that report, the government has no longer calculated these tax costs and benefits of immigration in a general sense. This is striking because in the Netherlands just about everything that is relevant to policy is regularly monitored in all kinds of ways. And given its considerable size in the last decades, immigration to the Netherlands can certainly be considered policy-relevant.

The fact that the CPB report from 2003 has not received a full update is not least due to normative limitations. In this context, the late minister Eberhard van der Laan said in the *NOS-journaal* news program of 4 September 2009 that the cabinet is not interested in putting people along the yardstick of euros. The then director of the CPB, Laura van Geest, stated in an interview: [2] "I don't think you should talk about refugees and start calculating something." And Klaas Dijkhoff stated in 2016 as State Secretary for Security and Justice in response to parliamentary questions[3] that the government does not evaluate citizens, but policy. Country of origin is personal data that, "in accordance with the principles of the rule of law, is not relevant to most policy areas," says Dijkhoff.

There are three underlying – often implicit – arguments that play a role in this: 'one should not calculate the value of a human life', 'one should not blame the victim' and 'one should not play into the hands of the extreme right'.[4] None of these three arguments makes sense upon closer consideration.

Let's begin with the argument that one should not 'calculate the value of a human life'. It is sometimes noted that it would not be ethically acceptable to calculate the costs and benefits of immigrants. Humanitarian reasons and human solidarity would oppose this. This argument is already very easy to refute for immigrant workers because their arrival is often defended on the basis of economic self-interest. But it doesn't really make sense for family immigrants and refugees either. Few residents would welcome immigrants at any cost, for example, for whom it does not matter whether immigration reduces their income by a small percentage or cuts their income by a quarter.

When assessing policy measures, costs and benefits are always weighed, whether implicitly or explicitly. The introduction of new medicines in an insurance package, the safety measures at train-crossings, the legal regulations for working conditions, the height of sea dikes, the expenditure on defence, the installation of crash barriers along motorways, the list can be expanded effortlessly. The only real choice that can be made is between implicit – vague and unspecified, with one's head in the sand – and explicit, but with a clear awareness of the limitations of such calculations. We opt for the latter. Everyone is free to want to spend a lot or little on road safety, nature management and receiving

[1] The CPB – in full CPB Netherlands Bureau for Economic Policy Analysis – is the main research institute for economic policy analysis and policy advice in the Netherlands. In that capacity, it advises the government and regularly produces economic forecasts and reports. *Immigration and the Dutch Economy* was the first and so far only report on the economic effects of immigration. Roodenburg, H., R. Euwals & H. ter Rele (2003)

[2] *De Volkskrant*, 22 October 2015

[3] *Aanhangsel Handelingen II* 2015/16, 3502, retrieved 11-12-2020 from: https://zoek.officielebekendmakingen.nl/ah-tk-20152016-3502.html

[4] Van de Beek, J. H. (2010)

refugees. Ultimately, that revolves around political considerations, but this should be done with a clear view of the costs and benefits.

Having insight into the costs and benefits also invalidates the other two arguments against calculating the costs and benefits of immigration. If the costs and benefits of immigration are known and continuously monitored, it is to be expected that the government will also focus more on successful immigration, for example by setting up a more selective immigration policy like that of Australia or Canada. In these countries, there is a selective immigration policy that is quite broadly supported by the population.

It can be expected that an admission policy that has a positive effect on the host society also contributes to the prosperity and well-being of the immigrants, after all, one will select those immigrants with the greatest chances of socio-economic and socio-cultural integration. But if immigration policy has a positive effect on both the existing population and the immigrants, this will also positively influence the existing population's views on immigration policy. This reduces the chances of blaming the victim because there are fewer immigrants who are doing badly and if there are problems, the blame falls on the failing – insufficiently selective – immigration policy. A logical consequence is that political parties that want to capitalize on dissatisfaction with the immigration policy will receive less ammunition as a result, so the hackneyed argument to 'not play into the hands of the extreme right' – whatever that may mean – falls apart.

There is one big but: the current immigration policy can hardly be made selective without a fundamental policy change. The reason is that the Netherlands is not sovereign when it comes to immigration. Immigration policy has been extensively internationalized and juridified. International treaties such as the UN Refugee Convention and European regulations and treaties largely determine who is or is not admitted to Dutch territory. This is probably an important explanation for the taboo on calculating the costs and benefits of immigration referred to above. Policymakers know that change is very difficult and involves major political risks, and so they view the topic as what public administration expert Ringeling[5] calls a 'prohibited policy alternative'. Setting taboos is simply one of the tools of the exercise of power.

Our hope is that this report will help to overcome this normative barrier and that it will lead the knowledge institutes in the Netherlands – Statistics Netherlands (CBS), CPB, SCP, WODC, NIDI and PBL – to set up a continuous policy monitor for immigration policy in general and the admission policy in particular. This immigration monitor should pay ample attention to the fiscal costs and benefits and other economic effects of immigration.

For the time being, we do not have this immigration monitor, but we do have the 2nd edition of our report. In this edition, some changes have been made to the 1st edition. In general, these are minor additions, improvements and clarifications. A few matters, such as the revision of Table 9.4 and the resulting recalibration of §9.12, are of a more fundamental nature. Some additions proved necessary during the writing of the English translation. For example, much attention has been paid to explaining the Cito score and the peculiarities of the highly stratified Dutch school system. A number of other changes were inspired by feedback from scholars. For instance, the sensitivity analysis in §6.5 has been extended and the explanatory notes in the Technical Appendix have been considerably expanded. For

[5] Ringeling, A. (1989)

practical use by policy makers, some tables with the most important variables from Chapters 8 and 9 have been added at the end. For the sake of readability, §9.13 from the 1st edition has been split into two new and completely rewritten paragraphs. The new §9.13 shows that 'net contribution to the treasury' – the core concept from the current report – is about more than just money: net contribution summarises in one number a variety of integration indicators, ranging from education and the labour market to benefits and crime. It also explains that remigration involves 'negative self-selection', with the Dutch welfare state acting as a kind of 'reverse welfare magnet': immigrants who integrate poorly tend to settle in the Netherlands for a long time or permanently, while immigrants who score well on integration indicators often leave again quickly. The new §9.14 shows that among second-generation immigrants, a large cultural distance between the Netherlands and the parents' country of origin is associated with a lower net contribution to the treasury, even when correcting for education level and Cito score. However, despite these changes, the main analyses and main structure of the report remained largely unchanged.

The problem of the current high inflation rate should not go unmentioned here. All amounts in this report are expressed in 2016 euros. In the meantime, the euro has lost much of its purchasing power. At the time of writing, a representative shopping 'basket' costs roughly a quarter more than in January 2016.[6] However, we have refrained from correcting all amounts for inflation. Those who wish to do so can raise the amounts themselves in line with the inflation figures in force at the time. In view of inflation, it may be more robust to express the net cost of immigration as a percentage of gross domestic product (GDP). As described in §1.1, the fiscal impact of immigration over the period 2015-2019 is on average 3.8% of GDP, more than twice the current fiscal impact of ageing.

Moreover, we would like to express our gratitude to a number of people and organizations without whom this report could not have been realized. First of all, we would like to thank Prof. Harrie Verbon, Dr. Roel Jennissen and Dr. Jan te Nijenhuis for their valuable feedback on parts of the report and the Technical Appendix.

We would also like to thank Statistics Netherlands (CBS), where we were allowed to work with Statistics Netherlands microdata (under strict conditions and in a digitally secured environment). These are very detailed, anonymised data from all Dutch people, which offers unprecedented opportunities to perform analyses. In the Netherlands, we can rightly be proud to have a statistical institute that makes this possible.

Furthermore, a few words about the Renaissance Instituut[7] which financed a limited part of the costs for the 1st edition. People sometimes hear, 'who pays decides'. This is a reference to the influence of paying agencies on research results. A recent scandal, for example, involved the influence[8] of the

[6] CBS-statline, *Consumentenprijzen; prijsindex 2015=100, retrieved 13-1-2023 from: https://opendata.cbs.nl/statline/#/CBS/nl/dataset/83131NED/table?dl=7A4E1*

[7] The Renaissance Instituut is the scientific bureau of the Forum voor Democratie.

[8] With regard to this matter, the investigation committee WODC II states: "On the basis of its investigation, the committee concludes that in the relationship between the WODC and policy departments of the Ministry of Justice and Security, the balance between proximity and independence has been disturbed. On the one hand, policy and research are too much intertwined. On the other hand, the independence of the research is insufficiently guaranteed." See Hertogh et al. (2019), pg. 11

Ministry of Justice and Security on WODC[9] researchers. However, the Renaissance Institute has never had any substantive involvement with the results of our investigation or the content of the report. Nor have they ever attempted to influence content in any way. The final report was thus – as it should be – written with complete independence.

Finally, we would like to thank the University of Amsterdam (UvA) who hosted us for our research project. Two of the researchers were seconded to the UvA. The UvA also advanced the costs of Statistics Netherlands (CBS) microdata for the Renaissance Institute. Unfortunately, the UvA did not react positively to the publication of the 1st edition. The UvA was of the opinion that we had wrongly used the UvA logo on the report, while this was the result of contractual obligations to publish 'under own name' – i.e. the name of the UvA – which the university itself had entered into with the CBS. Co-author professor emeritus Joop Hartog received an ultimatum at 9:30 p.m. on the day of publication: "If the [logo] is still there tomorrow at noon, I will request the personnel department to immediately terminate your hospitality [guest appointment]." The next day, the threat – after decades of loyal service to the UvA and a glorious academic career – was carried out. Joop Hartog was also deposed as chairman of a number of already planned PhD ceremonies. This very sordid affair even made it into the national press.[10] In the end, the UvA was unable to present any valid arguments as to why the logo should not be on the cover of our report, and the withdrawal of Joop Hartog's guest appointment was reversed, but no public apologies were forthcoming. The whole affair underlines how sensitive the subject of study of this report still is and thus also the necessity of this report.

Zeist, April 2023

Jan van de Beek, Joop Hartog, Hans Roodenburg and Gerrit Kreffer

[9] "The Scientific Research and Documentation Centre (WODC) is the knowledge institute for the Ministry of Justice and Security. The WODC conducts its own independent scientific research or has this done by recognised institutes and universities, in support of policy and implementation.", retrieved 17-9-2021 from: https://www.wodc.nl/

[10] *De Telegraaf*, 8 March 2021

Content

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Brief summary

The report “Borderless welfare state” examines the costs and benefits of immigration for the Dutch treasury. It is an update of the public finances part of the immigration study of the CPB conducted in 2003.

The essence of the applied method is that the costs and benefits of the entire remaining life course of immigrants are mapped out. We call the benefits minus the costs the net contribution. The calculations are based on anonymous data of all 17 million Dutch residents. The Dutch population is growing due to immigration. Of the over 17 million Dutch residents at the end of 2019, 13% were born abroad (first generation) and 11% were children of immigrants (second generation).

Government spending on immigrants is now above average for items such as education, social security and benefits. Immigrants, on the other hand, pay less taxes and social security premiums on average. When added together, the net costs of immigration turn out to be considerable: for immigrants who entered in the period 1995-2019 alone, these are 400 billion euros, an amount in the order of magnitude of the total Dutch natural gas revenues from the 1960s onwards. These costs are mainly the result of redistribution through the welfare state. Continuing immigration with its current size and cost structure will put increasing pressure on public finances. Curtailment of the welfare state and/or immigration will then be inevitable.

The average costs and benefits of different immigrant groups differ greatly. The report presents these differences. Immigration for work and study from most Western countries and a number of non-Western – especially East Asian – countries show a positive outcome. All other forms of immigration are at best more or less budget neutral or have a negative effect on the budget. The latter applies especially to the motives family and asylum.

The educational level of immigrants is very decisive for their net contribution to the Dutch treasury, and the same applies to their children's Cito scores (scores on a 50-point scale for assessing pupils in primary education). If the parents make a positive net contribution, the second generation is usually comparable to the native Dutch population. If the parents make a strongly negative net contribution, the second generation usually lags behind considerably as well. Therefore, the adage ‘it will all work out with the second generation’ does not hold true.

Immigration is not a solution to population ageing. If the percentage of those over the age of 70 is to be kept constant with immigration, the Dutch population will grow extremely quickly to approximately 100 million at the end of this century. Population ageing is mainly dejuvenation. Far fewer children are being born than is necessary to maintain the population. And immigration does not solve the dejuvenation. The only structural solution is an increase in the average number of children. Furthermore, immigration does not seem to be a viable way to absorb the costs of population ageing. This would require large numbers of above-average performing immigrants with all the consequences for population growth.

Immigrants who on average make a large negative net contribution to public finances are mainly found among those who exercise the right to asylum, especially if they come from Africa and the Middle East. The total population in these areas will increase from 1.6 billion today to 4.7 billion by the end of this century. Maintaining the existing legal framework, in particular regarding the right of asylum, does not seem a realistic option under these circumstances.

Summary

The report "Borderless welfare state" deals with the consequences of immigration for Dutch public finances. It focuses on the fiscal costs and benefits of immigration, that is, the costs and benefits of immigration for the Dutch treasury. It answers the following questions:

- *What are the fiscal costs and benefits of immigration by immigration motive (labour, study, asylum and family immigration) and by region of origin?*
- *To what extent can immigration provide a solution to population ageing in the Netherlands?*

The current report is an update of the Public Sector chapter of the report *Immigration and the Dutch Economy* (2003) by the CPB Netherlands Bureau for Economic Policy Analysis (CPB). Both reports deploy the method of generational accounting to calculate the net contribution – revenues minus expenses – of immigrants to public finances, measured from the moment of their immigration to the time of repatriation or death. This net contribution is the key concept of the current study.

The study uses microdata from 2016 provided by Statistics Netherlands. These are very detailed, anonymized data of all 17 million Dutch residents, including about two million people with a first-generation immigration background and almost two million people with a second-generation immigration background. These microdata are combined with a economic projection to 2060 for the CPB *Update Medium-Term Forecast 2018-2021*

Total costs and benefits

The Dutch population is growing due to immigration. Of the more than 17 million Dutch inhabitants at the end of 2019, 13% were born abroad (first generation) and 11% were children of immigrants (second generation). Currently, per capita expenditures on immigrants are significantly higher than on Dutch native people in areas such as education, healthcare, justice, social security and allowances. Moreover, immigrants pay fewer taxes and social security premiums. The main findings for the net contribution (benefits minus costs) of the first two generations together are given in Table 0.1. The total net cost of immigration was on average 17 billion euro per year over the period 1995-2019 (i.e. on average for immigrants arriving in a calendar year). By comparison, that is as much as the government spent on defence and unemployment benefits combined in 2016. In 2016, net costs peaked at 32 billion euros, partly due to the 'refugee crisis'. The total cost over the 1995-2019 period was 400 billion euros, an amount of the same order of magnitude as the total Dutch natural gas revenues from the start of extraction until 2019. Based on forecasts from Statistics Netherlands, the report estimates the total cost of immigration for the next two decades at 600 billion euros if policy remains unchanged.

Table 0.1 Total costs for the public sector of immigration from 1995-2040 in billions of euro, including the costs for the second generation (rounded to multiples of 20 billion euro).

	Net costs of immigration (billions)	
Period	**Subtotal**	**Total**
1995-2009	€200	
2010-2019	€200 +	
Total 1995-2019		€400
2020-2040 (forecast)		€600 +
Total 1995-2040 (including forecast)		€1,000

Costs and benefits by immigration motive and region

The net contributions of immigrants vary. Table 0.2 shows net contributions of immigrants – including the net contributions of their children (the second generation) – rounded to multiples of €25,000. There are large differences between western and non-western immigrants. On average, western immigrants make positive contributions of €25,000 and non-western immigrants cost €275,000. Within the western and non-western categories, however, there is a lot of variation.

Immigration from most western regions is positive for the treasury. In particular, immigrants from Japan, North America, Oceania, the British Isles, Scandinavia and Switzerland make a substantial positive contribution of around €200,000 per immigrant. Immigration from Central and Eastern European countries costs €50,000, excluding former Yugoslavia and the former Soviet Union. The latter two areas of origin mainly involve asylum migrants who make a substantial negative contribution of €150,000.

Immigration from non-Western regions tends to be negative for the treasury. This is especially true for the regions Caribbean, Middle East (including Pakistan and Turkey) and North, Central and West Africa (net costs of €200,000 to €400,000), Morocco (€550,000) and the Horn of Africa and Sudan (€600,000).

There are substantial differences between groups with different immigration motives. Only labour immigration generates a positive average net contribution of €125,000 per immigrant. Study migration costs a net €75,000 on average. Family migration costs the treasury €275,000 per immigrant on average. The net cost of asylum migration averages €475,000 per immigrant.

Table 0.2 Average net contribution of immigrants to public finances, by immigration motive and region, including the cost for the second generation (rounded to multiples of €10,000).

Migration motive		**Amount**
Labour immigration	+	€125,000
Study immigration	–	€75,000
Family immigration	–	€275,000
Asylum immigration	–	€475,000
Region		**Amount**
Western average	+	€25,000
Japan, North America, Oceania, British Isles, Scandinavia and Switzerland	+	€200,000
Central and Eastern European EU countries	–	€50,000
Other EU countries (excl. British Isles, and Scandinavian EU countries)	+	€50,000
Former Yugoslavia and the former Soviet Union	–	€150,000
Non-Western average	–	€275,000
Southern Africa (*de facto* RSA)	+	€150,000
Israel	+	€50,000
Morocco	–	€550,000
Horn of Africa and Sudan	–	€600,000
Immigration motive combined with region		**Amount**
Labour immigration from Japan, North America and Oceania	+	€625,000
Asylum immigration from Africa	–	€625,000
Study immigration from the European Union (including UK)	+	€75,000
Study immigration from Africa	–	€250,000

For all immigration motives, Western immigrants seem to 'perform better' than non-Western immigrants. The difference is approximately €125,000 for labour and study immigrants, and €250,000 for asylum and family immigrants. The largest positive net contribution – €625,000 – is made by migrant workers from Japan, North America and Oceania. The largest net cost – also €625,000 – is for asylum migrants from Africa.

In isolation, only two categories seem favourable for Dutch public finances: study immigration from the EU, and labour immigration from Western countries (except Central and Eastern European countries), Asia (except the Middle East) and Latin America. However, if one takes into account the cost of family migration (chain migration), only labour migration from North America, Oceania, the British Isles, Scandinavia, Belgium, Luxembourg, France, Germany, Austria, Switzerland, Italy, Spain, Israel, India, Singapore, Taiwan, South Korea and Japan is unambiguously positive from a treasury perspective. Study migration from the EU and EFTA, taking into account chain migration, is likely to be roughly budget-neutral or slightly positive. Study and labour migration from the rest of the world is at best budget-neutral and mostly negative, surprisingly sometimes very negative, given the motive reported to the Dutch Immigration and Naturalisation Service (IND). Family migration also, almost without exception, represents an often substantial drain on the Dutch treasury. Asylum migration is very costly in all cases.

There is a large and growing group of immigrants whose immigration motives are unknown. For a considerable part, these are people who would not state a reason for immigration because they have already acquired the Dutch nationality.

Costs and benefits by generation and the importance of education and test scores

For Dutch residents without an immigration background (native Dutch), the costs and benefits are roughly in balance. In other words, they are approximately 'budget neutral'. The effect on public finances of persons with a second-generation background who are well integrated – i.e., with a level of education and labour market performance very similar to native Dutch people – is therefore also approximately budget neutral.

Immigrant groups of which the first generation yields substantial net benefits usually do not show the same outcome for the second generation. That generation – although well integrated – is usually roughly budget neutral.

Migrant groups of which the first generation has a (considerable) negative net contribution, usually have a second generation that also has a (substantial) negative net contribution. For those groups, the net present value of the net contribution of future generations will not offset the costs for the first generation. The quite common idea that 'things will improve in future generations' therefore does not apply when it comes to the costs and benefits of immigrants.

There is a substantial correlation between net life course contribution and educational attainment. Immigrants with a master's degree make a positive net life course contribution of €130,000 (non-western) to €245,000 (western) against €515,000 for natives (rounded off to multiples of €5,000). Immigrants with at most primary education cost the treasury a net €360,000 (non-western) to €195,000 (western) over their whole lives compared to €235,000 for natives. A positive net contribution requires the immigrant to have at least a bachelor's degree or equivalent education, or skills that enable him or her to generate an income comparable to someone working at bachelor's level. That the

Netherlands – unlike classic immigration countries – hardly selects on education level and skills causes a large part of the net cost of non-Western immigration.

Furthermore, a robust correlation exists between net contribution and scores on the so-called 'Cito's End-of-Primary-School-Test', a 50-point student assessment scale for primary education. Natives with the highest Cito score make a positive net contribution of (rounded) €340,000 over their live course. Natives with the lowest Cito score cost a net €440,000 over their life course. For the most common Cito scores, a one-point higher Cito score provides roughly €20,000 extra net contribution over the life course. For people with a second-generation migration background, there is a similar relationship between Cito score and net contribution, albeit at a considerably lower level. The net contributions of the western second generation are on average about €60,000 lower than of natives with the same Cito score. The non-western second generation on average even has a €170,000 lower net contribution than natives with the same Cito score. These differences are not caused by the Dutch education system, because immigrants with a certain Cito score hardly differ from natives with the same Cito score when it comes to final educational attainment. These differences arise after education, in the labour market.

There are considerable differences in Cito scores between regions of origin and also between immigration motives. For the second generation, Cito scores and secondary school performance are low for Turkey, Morocco, Caribbean, (former) Netherlands Antilles, Suriname and much of Africa. High Cito scores and school performance are found among children from second-generation migration backgrounds in East Asia, Israel, Scandinavia, Switzerland and North America.

Children of migrants with migration motives involving explicit selection – i.e. work and study – have significantly higher Cito scores than children of migrants with other migration motives such as asylum and family. When further broken down by western and non-western, only children born in the Netherlands to western study and labour migrants have higher Cito scores than natives.

The net contribution of first and second generation immigrants is strongly related to the average Cito score in the group of origin. This is true for the Cito scores of Dutch-born second-generation children and also for foreign-born first-generation immigrants who come to the Netherlands before the age of twelve.

The Cito scores of first- and second-generation children are further related to the educational level of their first-generation parents. Partly for this reason, a disadvantage in the first generation almost always has a strong impact on the net contribution of the second generation. However, there are some exceptions to this. Among older Chinese immigrants, the first generation had, on average, a low level of education and income, while the second generation is doing very well due to exceptionally high Cito scores and school performance.

Cito scores of successive generations are strongly correlated. On average, there is progress with each generation and the differences with natives become smaller. However, with very low Cito scores, disadvantages sometimes prove to be persistent: in the five first-generation groups with the lowest Cito scores, even by the third generation, on average less than half of the disadvantage has been 'caught up'.

In the transmission of disadvantages to the next generation, the proportion of 'mixed relationships' plays a major role. Especially in groups where the first generation entered Dutch society at a considerable disadvantage, second-generation children with a 'mixed-parent couple' – i.e. one parent born in the Netherlands and one parent born abroad – often have significantly higher Cito scores. In the third generation, one parent with a Dutch background has a similar positive effect. Among Antilleans, for example, a significant rise in Cito scores across the generations coincides with a high proportion of mixed relationships. In general, higher Cito scores have a positive effect on the net contribution to the treasury via educational attainment and labour market performance. For some second-generation groups, the difference between one or two foreign-born parents amounts to a few hundred thousand euros. If the Dutch-born parent is a native, the favourable effect is usually much greater than if the Dutch-born parent has a migration background themselves.

Net contribution as an indicator of integration

Net contribution is about more than just money. The net contribution sums up in a single figure a variety of integration indicators. Net contribution correlates strongly positively with income from own work or business and negatively with benefits received. There is also a strong correlation with taxes and contributions paid and with rent allowance, child allowance and child budget received. Net contribution is further strongly related to educational level, Cito score and education costs and to participation in 'special needs education'; education intended for children with physical or mental disabilities, low IQ, developmental and behavioural disorders and the like. There is also a strong correlation with healthcare costs and costs of crime, police and justice. These correlations concern the first and second generation and, in the case of Cito scores, even the third generation. Finally, there is a correlation with the chance of remigration, the proportion of second-generation children born from mixed relationships and the 'cultural distance' between the Netherlands and the country of origin.

Greater 'cultural distance' correlates with lower chances of integration

It is possible to measure the 'cultural distance' between the Netherlands and the country of origin on the so-called 'cultural values map'. This is a map based on the results of the World Values Survey, a large-scale and long-term survey of values and norms in a large number of countries. It turns out that this cultural distance is strongly negatively correlated with all kinds of integration indicators such as education level, Cito score and net contribution to the Dutch treasury. The further away the culture of a migrant group is from Dutch culture, the lower the score on net contribution and all kinds of other integration indicators. This also affects the second generation born, raised and educated in the Netherlands, with the group with the greatest cultural distance – the so-called *African-Islamic cluster* – having a net contribution almost two hundred thousand euros lower than one would expect based on education and the like.

Remigration opportunities: the welfare state acts as a 'reverse welfare magnet'

Differences in educational attainment and cito scores between groups arise through historical coincidence and processes of (self)selection. Negative self-selection in remigration further exacerbates existing differences, because it is precisely groups with a low net contribution to the Dutch treasury and a large cultural distance to the Netherlands that tend to stay in the Netherlands for a long time. These are also the immigrants who score poorly on all kinds of integration indicators: low income, low education level and ditto cito scores, high benefit dependence and crime rates, and so on. The Dutch welfare state thus acts as a 'reverse welfare magnet' that tends to 'hold on' to immigrants with a negative net contribution, while immigrants who score well on integration indicators often leave quickly.

Immigration as a demographic solution to the problems of population ageing

Like many Western nations, the Netherlands has an ageing population. There are incidental elements to population ageing, such as the baby boom, but also a structural elements, such as rising life expectancy and especially a persistently low fertility rate. For almost half a century, the average number of children per woman has been around 1.7, well below the replacement level of approximately 2.1 needed for a constant population size. This causes every new generation to be smaller in size than the previous one, resulting in a dwindling share of young people in the population, a process sometimes referred to as dejuvenation. It also leads to an increase in the so-called grey pressure, that is, an increase in the ratio between people over the age of 65 and people between 20 to 65 years of age.

Fully in line with the literature, this study found that solving ageing by means of immigration resembles a pyramid or Ponzi scheme. A simulation shows that ever-increasing numbers of immigrants are needed to keep the Dutch grey pressure – the ratio of people over 70 to people aged 20 to 70 – at the 2020 level. This results in significant population growth: 100 million inhabitants by the end of this century, and one billion inhabitants by the year 2200. A pension age of 70 has been assumed because the state pension age in the Netherlands is slowly rising to 70.

Immigration does not provide a stable solution to population ageing because the underlying problems of rising life expectancy and low fertility are not resolved. On average, the fertility of immigrants is below the replacement level as well, partly because immigrants from high-fertility groups adjust their fertility downwards over time, and partly because immigrants from most countries in the Americas, Europe and Eastern Asia already have low fertility rates. In time, life expectancy will also trend towards the Dutch level.

Immigration as a solution to the financial burden of population ageing

Due to the increasing ageing of the population (the grey pressure), the costs for healthcare and state pensions are rising rapidly. The current study challenges the idea that it is possible to absorb the additional costs of an ageing population through immigration.

Immigration as a means of absorbing the costs of an ageing population encounters the same practical objection as the strategy of immigration as a demographic solution to the ageing population, namely strong population growth. A simulation shows that closing a permanent financial gap in public finances of 2.5% of gross domestic product by admitting labour immigrants with high economic potential would lead to additional population growth of 7 to 10 million inhabitants in the period 2020-2080. The exact population growth depends on the extent to which the inevitable family migrants contribute positively or negatively to the Dutch treasury. Based on the current net contribution of family migrants, 10 million additional population growth is much more likely than 7 million.

In addition, mass recruitment of high-potential immigrants may prove difficult in practice, as most high net contributors currently come from countries that are themselves grappling with a rapidly aging population and/or trying to attract highly skilled immigrants.

Future costs and benefits

The findings in the current report and recent projections for immigration indicate the total cost of immigration is expected to continue to rise. For the period 2020-2040, the estimated total additional costs of future immigration amount to around 600 billion euros.

A slight increase in the share of asylum seekers would lead to a significant increase in future costs. If, for example, the volume of asylum immigration from West Asia and Africa kept pace with the population growth there, this alone would result in additional costs of approximately 64 billion euros in the years 2020-2040.

A complicating factor is that the vast majority of the estimated costs are delayed entering the budget. After all, it also involves costs for the old age of – at the time of admission – often young immigrants. This makes the realised annual budgetary impact of immigration – 17 billion euros in 2016 – steadily increasing, partly due to irreversible past decisions. If immigration remains at the 2015-2019 level in terms of volume and net contribution, the realised budget seizure will rise to around 50 billion euros a year.

A less negative or a positive fiscal impact of immigration can be attained, but this requires a fundamental policy change. The present study calculates a restrictive scenario, in which labour immigration mainly originates from Western countries (except Central and Eastern Europe), Latin America and Asia (except the Middle East), in which there is also a 50% reduction in family immigration and a 90% reduction in asylum immigration. This scenario is highly selective compared to the current situation and requires changes in international treaties, such as the UN Refugee Convention. Nevertheless, even in that case, immigration is not even budget-neutral.

Policy implications

The net costs of immigration for the government are considerable, and projections show they will consume a steadily increasing portion of the annual government budget. These costs are mainly due to redistribution through the welfare state. Continuation of the current level of immigration and current arrangements of the welfare state will increase pressure on public finances. Downsizing the welfare state and/or curtailment of immigration will then be inevitable.

Immigration does not appear to be a solution to population ageing either. On the contrary, calculations in this report show that the impact of immigration – expressed as a percentage of gross domestic product (GDP) – over the period 2015-2019 was, on average, more than twice the current impact of ageing. Current immigration is therefore making the problem worse rather than better.

In essence, ageing is mainly dejuvenation due to a low fertility rate. The only structural solution for that is an increase in the average number of children per woman in the Netherlands to approximately 2.1. To compensate for rising life expectancy, one can increase the retirement age, but that is already standing policy in the Netherlands.

Nowadays, the consequences for public finances hardly play a role in policy decisions on immigration. This could change if the type of calculations presented in this report were taken into consideration. First of all, the results presented offer starting points for the admission policy for immigrants from outside the EU with the motives ‘work’ and ‘study’. The policies can relate to the size of these immigration flows and selection of immigrants on proven predictors of positive outcomes, such as educational attainment. Other examples include cost estimates of specific policy proposals, such as a general

amnesty scheme, the number of invited refugees, approval of new EU rules, admission of new EU member states and the opening of our labour market to their residents, an asylum seekers quota assigned by the EU, the required compensation for above-average quota, et cetera.

The calculations may also offer a starting point for integration policy. A study of the net contributions to our government, as described in this report, provides a good indication of the socioeconomic position of various immigrant groups. Indeed, the net contribution is about more than just money: it summarises in one figure the most diverse integration indicators, ranging from education and the labour market to benefits and criminality. Not only the integration of the first generation, but also of the second and third generation requires attention. As this report demonstrates, the educational attainment of the first generation, as well as the school success of children of the first and second generation, are quintessential for positive outcomes.

A more structural approach is to monitor the costs of current immigration flows and to keep an account of the outstanding claims that immigrants have on the treasury. This brings us to the value of periodic surveys of net contributions. The Dutch government has not published data on net contributions to public finances of immigrants since 2003. We can only guess the reasons for this. Hopefully, this research will make it clear that this information is necessary for the foundation of policies and insight into future government spending. In our view, the report fits well with the yearly government report 'State of Migration' and the work of the State Commission on Demographic Developments 2050 (*Staatscommissie Demografische Ontwikkelingen 2050*) on the consequences of changes in the size and composition of the population in the Netherlands by mid-century.

Perspective

Immigrants that make on average a significantly negative contribution to Dutch public finances are mainly those who exercise the right to asylum, especially if they come from Africa and the Middle East. The latest UN population forecast shows that the total population in these areas will increase from 1.6 billion to 4.7 billion by the end of this century. It is not implausible that the immigration potential will at least keep pace. Immigration pressure, in particular on the welfare states in Northwest Europe, will therefore increase to an unprecedented degree. This raises the question of whether maintaining the open-ended arrangement enshrined in the existing legal framework is a realistic option under these circumstances.

The current cabinet recently indicated to the House of Representatives how it views the existing legal framework. This was in response to a report on an "investigation into the question of whether, and if so how, the 1951 Refugee Convention can be updated to provide a sustainable legal framework for the international asylum policy of the future".

This response shows that the Dutch cabinet wants to maintain the existing legal framework for asylum immigration – despite the large-scale abuse identified by the cabinet. The calculations in this report leave no doubt about what this means in the long term: increasing pressure on public finances and ultimately the end of the welfare state as we know it today. A choice for the current legal framework is, therefore, implicitly a choice against the welfare state.

Glossary

12-part division See the term *regional classification*.

19-part division See the term *regional classification*.

42-part division See the term *regional classification*.

87-part division See the term *regional classification*.

Age profile A profile in which, for a specific group of people, the value of a specific variable is given separately for each year of age (from 0 to 100 years). Concrete example: average unemployment insurance premium paid for each age separately for a specific group. The immigration profile is also an example of an age profile.

Anglo-Saxon countries (region designation) The (English-speaking) countries the United Kingdom, Ireland, the United States, Canada, Australia and New Zealand. In terms of calculations, these are the countries in the regions of the United Kingdom and Ireland, North America and Oceania. Particularly in the case of Oceania, there is also some immigration from other countries (notably Pacific island groups), but its impact on the results is negligible due to its small size.

AOW The old age pension scheme in the Netherlands provided by the state. It is unfunded (pay-as-you-go), meaning that the pensions of the current elderly are paid for by the current working population. On top of the AOW, many elderly receive a supplementary pension. These supplementary pensions are funded, meaning that they are financed by past savings, collectively or individually.

Aruba and the (former) Netherlands Antilles This is a statistical category that Statistics Netherlands uses for the islands of Aruba, Bonaire, Curaçao, Sint Maarten, Sint Eustatius and Saba. On 15 December 1954, these islands became a country within the Kingdom of the Netherlands, called the Netherlands Antilles. On 1 January 1986, Aruba separated from the Netherlands Antilles and became a separate country within the Kingdom of the Netherlands and the designation "(former) Netherlands Antilles and Aruba" was created. The Netherlands Antilles – consisting of the other five islands – was dissolved on 10 October 2010. The Kingdom of the Netherlands now consists of four countries: the Netherlands and the islands of Aruba, Curaçao and Sint Maarten. The other three islands – Bonaire, Sint Eustatius and Saba, also known as the Caribbean Netherlands – function as a special municipality of the Netherlands.[11]

Asian tigers (region) A name for some economically successful countries in East Asia, namely South Korea, Taiwan, Hong Kong and Singapore. They are often mentioned separately in the main text because they are not (easily) visible on the world maps.

Asylum origin region A region where a relatively large number asylum immigrants come from. There are four set apart, namely the region of Former Yugoslavia (excluding Slovenia and Croatia) and Albania, the region of the Former Soviet Union (excluding Baltic States), the region of Horn of Africa and Sudan and the region of Afghanistan, Iran, Syria and Iraq. The classification is in line with the existing

[11] See Statistics Netherlands, *(voormalige) Nederlandse Antillen en Aruba, retrieved 15-12-2020 from: https://www.cbs.nl/nl-nl/nieuws/2015/52/in-vijf-jaar-tijd-ruim-3-duizend-nederlanders-verhuisd-naar-caribisch-nederland/voormalige---nederlandse-antillen-en-aruba*

divisions of Statistics Netherlands and the UN as much as possible. Of course, there are also other countries and regions where asylum seekers come from.

Budgetary effect Effect on the government budget (public finances). In the context of the current report this mainly refers to the net contribution of immigrants to the treasury. For further reference see the term *net contribution*.

CBS See the term *Statistics Netherlands (CBS).*

CBS microdata See the term *Statistics Netherlands microdata.*

CBS table population See the term *Statistics Netherlands table population.*

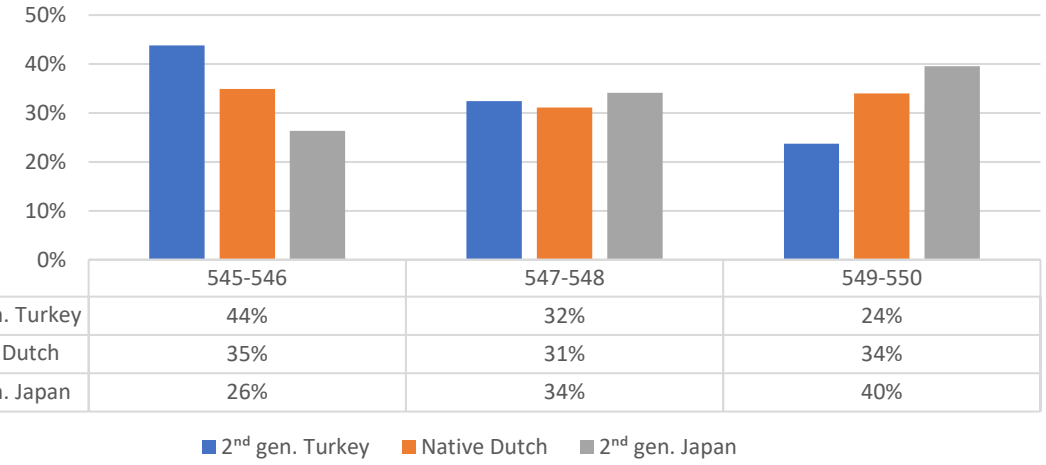
CEE countries (region) The EU countries in Central and Eastern Europe. The term comes from Statistics Netherlands. In concrete terms, the current study concerns Estonia, Latvia, Lithuania, Poland, Romania, Bulgaria, Hungary, Croatia, Slovenia, Slovakia and the Czech Republic.

Cito distribution effect Both education level and Cito score are strongly associated with net contribution. The higher the education level, the higher the net contribution (§9.3). Similarly, the higher the Cito score, the higher the net contribution (§9.4). One difference is that the variable education level has only a limited number of levels and the variable Cito score has 50 different levels. Thus, both Cito score and education level are predictors of net contribution, but education level has a coarser division into levels. Both are measures of a person's school performance and cognitive ability, but the Cito score provides more detailed information.[12] In school advise, the 50-point Cito scale is broken down into several intervals that are associated with secondary school levels (see the term *Cito score*). The school advise is very decisive for the type of secondary school education and the eventual highest achieved education. In turn, the highest obtained education is very decisive for the net contribution. A bachelor and especially a master gives on average a high net contribution (§9.3). The probability of obtaining a master's is highest with a VWO advise, which is associated with a Cito score in the interval 545-550, in short the 'VWO advise interval'. For each origin group in the 42-division into origin regions, the distribution over all possible Cito scores between 501 and 550 is known. This distribution is simply called Cito-distribution. The Cito-distributions differ considerably between origin groups. In origin groups with a high average Cito score, the average Cito score of all students in the VWO advise interval is relatively high. In origin groups with low average Cito scores, the average Cito score of all students in the VWO advise interval is relatively low. This effect is called Cito distribution effect, because it depends on the Cito distribution. This effect also occurs, for example, for the 'HAVO advise interval', about which more below, but for simplicity we limit the explanation in the first instance to the VWO advise interval. In the graph below, this effect is illustrated for the 2nd generation origin group with the highest average Cito score (Japan, *M* = 541.1) and for the 2nd generation origin group with the lowest average Cito score (Turkey, *M* = 528.8). The mean Cito score of all persons with a Turkish 2nd generation migration background and a Cito score in the VWO advise interval is 547.1 (*N* = 3,147). Similarly, persons with a Japanese 2nd generation migration background and a Cito score in the VWO advisory interval have a mean Cito score of 547.8 (*N* = 167). The difference is 0.77 Cito points. This is relatively large compared to the width of the VWO advise interval of only 6 Cito points. The reason is a different distribution of Cito scores. For 2nd generation migration background Japan, 40% have a Cito score in the

[12] Another difference is that, unlike educational attainment, the Cito score is a snapshot.

interval 549-550 versus 24% for 2nd generation migration background Turkey. For the interval 545-546, this is exactly the opposite: for 2nd generation migration background Japan, 26% are in this interval versus 44% for 2nd migration background generation Turkey.

Cito distribution effect for Cito scores in the VWO-advice range (545-550), Cito scores from the reporting years 2006-2018 for native Dutch persons and persons with a second generation immigration background in Turkey and Japan.



	545-546	547-548	549-550
2nd gen. Turkey	44%	32%	24%
Native Dutch	35%	31%	34%
2nd gen. Japan	26%	34%	40%

All students with a Cito score in the VWO advise interval are pre-sorted into the bachelor's-master's track, but in terms of average Cito score, there are thus significant group differences, which are probably only partially reflected in educational attainment. In a regression of net contribution on education level (see §9.14), the Cito distribution effect is a proxy for that part of the Cito score that is not discounted in education level. For pupils in the interval of a 'HAVO advise' or 'HAVO/VWO advise' (a Cito score of 537-544) something similar applies as for pupils with a VWO advise. On average (unweighted) for all pupils with a HAVO or HAVO/VWO advise on the one hand and all pupils with a VWO advise on the other hand, this Cito distribution effect is at most about 0.75 Cito points. Especially the Cito distribution effect for HAVO and VWO students is important for the net contribution, because these are school types that relatively often lead to a bachelor or master degree and the corresponding high net contributions.

At its core, the Cito distribution effect consists of the fact that if one cuts two approximately normally distributed groups with similar standard deviations and different averages into a number of intervals, then purely through the distribution over the different scores, group differences arise within each interval. Something similar occurs, for example, with IQ scores.[13] The table below shows IQ scores per school level, broken down by home language: non-Dutch versus Dutch. Dutch also includes Frisian and Dutch dialects and regional languages. The differences between pupils whose home language is Dutch and non-Dutch are very significant, especially for HAVO and VWO: 8.8 and 7.8 IQ points respectively. These differences are comparable to the difference in IQ between the average HAVO pupil and the average VWO pupil. In comparison, the difference between HAVO and VWO for the group with Dutch

[13] With IQ, the differences are expected to be greater because the citation scores are truncated on the right; the maximum score of 550 is disproportionately common, much more common than the maximum score of a typical IQ test.

as their home language is 7.3 IQ points in the table below. These large differences are an additional indication that correcting for the Cito distribution effect when regressing on educational level is justified.

Difference between children who speak Dutch at home and those who do not[1]

	Home language Dutch			Home language non-Dutch			Difference in IQ en t-test			
School type	*M*	*SD*	*N*	*M*	*SD*	*N*	IQ difference	*t*	*df*	*p*
VMBO-B	85,6	9,25	241	83,2	8,42	104	2,4	2,351	343	**
VMBO-K	94,2	8,57	240	88,3	8,91	15	5,9	2,599	253	***
VMBO-G/T	101,3	11,99	260	94,9	13,27	16	6,4	2,078	274	*
HAVO	111,5	10,57	140	102,7	11,38	54	8,8	5,102	192	***
VWO	118,8	9,08	528	111,0	9,40	91	7,8	7,582	617	***
Weighted average	105,0		1409	96,9		280	8,0			

* p<0,05; ** p<0,01; ***p<0,001

[1]Hop, M., Van Boxtel, H. W., Bechger, T. & B. Hemker (2013), Table 6.5, pg. 70

Incidentally, additional explanations are also conceivable for the group differences observed above. Te Nijenhuis et al. mention (then) over-advising (see the term *Cito under-advising and over-advising*) of immigrant children as a possible explanation for differences in school performance between immigrants and natives of the same educational level. In that case, immigrant children would relatively often receive a higher school advice than native children with the same abilities, which could lead to lower school performance and more school dropouts.[14] Recently there seems to be no question of over-advising or under-advising immigrants.[15] Jennissen shows that on average, immigrants who enter higher education are significantly less likely to complete their education, and if they do, they complete their education on average later than natives.[16] Among the possible explanations he mentions is an average lower intrinsic and higher extrinsic motivation among students with a migration background. High intrinsic motivation is related to study success. Another potential explanation could be that immigrants have less access to (material) resources for study or a "second chance" (to start another study after a failure).[17]

Cito return This refers to the distribution over the different educational levels for a certain Cito score. This term has been created in the current report to ascertain to what extent differences in net contributions according to immigration background are produced in the education system or in the labour market. The greater the relative share of the higher education levels, the greater the Cito return for that Cito score. The total rate of return can then be determined as the weighted average of the rankings in the 8-part division of the standard education classification (SEC) of Statistics Netherlands. In Chapter 9 this was done by weighting the net contribution by educational level. See also the term *education return*.

[14] te Nijenhuis, J., de Jong, M. J., Evers, A., & Van Der Flier, H. (2004)
[15] Onderwijsinspectie (2017), pg. 10
[16] Which in itself is another indirect indication of the objectively calculable Cito distribution effect.
[17] Jennissen, R. (2007)

Cito score This refers to the scores on the '*Cito Eindtoets Basisonderwijs*' (Cito's End-of-Primary-School-Test[18] or End Test for short). The Cito End Test is a 50-point scale – running from 501 to 550 – for the assessment of pupils in primary education. The test is developed by the Dutch Cito organisation specialised in testing for education.[19] The test is usually taken in the last year of primary school (age 11-12 years), hence the name. A peculiarity of the Dutch school system is that the primary school advises students/parents as to what secondary education the student should pursue in the highly stratified Dutch school system. This 'school advice' is based on the teachers' judgment and the Cito score.[20] For this reason, Cito scores play an important role in the ultimate level of education attained. After primary school, children can continue at three main levels of secondary education. Roughly half continues at the upper secondary 'VWO' or 'HAVO' school types.[21] The other half continues at the lower secondary 'VMBO' school type. The VMBO school type in turn is further subdivided in three levels: the theoretical G/T-level (denoted as VMBO-G/T)[22] and the practical K-level and B-level (denoted as VMBO-K and VMBO-B, and sometimes taken together as VMBO-B/K).[23] This results in five main school types (for more on the Dutch school system also see the term *Standard education classification*). The Cito score is divided into five non-overlapping score-intervals corresponding with the five main school types (see table below). The teachers' school advice may be expressed as a combination of school types (and hence overlapping Cito score-intervals) – for example HAVO/VWO, see table below – leaving open the possibility to choose between the school types HAVO and VWO. Transferring to another school type may be possible, based on the school results achieved during the first year(s) in secondary education. Although this gives some leeway, the Cito Test is fairly decisive in determining the highest level of education a pupil will eventually achieve later in life. In addition to these five main levels, two more levels can be distinguished. The B-level can be combined with so-called Learning Support (see corresponding term in Glossary, for short LWOO). Furthermore, children with a 'difficult learning intelligence profile' may attend so-called Practical Education (see corresponding term in Glossary, for short PRO). All in all, this results in a highly stratified school system with six or seven levels, in which placement is based on the teacher's judgement and more objective measures such as the Cito End Test and/or an intelligence test (IQ test). For LWOO and PRO mandatory IQ-testing is part of the admission procedure. For the five main school types the widely used Cito End Test (or a comparable test) suffices.

[18] Compare: Lek, K. (2020) pg. 1

[19] Retrieved 2-1-2022 from: https://www.cito.com/we-are

[20] Note: This report uses Cito scores from CBS microdata for reporting years 2006-2018. Starting from reporting year 2015, the system of school counselling changed: "In 2014/2015, the way of school counselling changed. In that school year, the importance of the Cito final test was curbed. Schools could now choose from several final tests as well as the teacher's advice. The advice from the final test became a kind of 'second opinion', only meant to adjust the school's advice upwards if necessary". The effect of this change on the scores and the school advice is probably limited, partly because it only concerns about 30% of the reporting years and partly because the differences are not very large anyway (among other things because the teacher's advice is also based on school results in, for instance, the pupil monitoring system and those results are, of course, also strongly correlated with the score on the End Test). Lek, K. (2021), compare Lek, K. (2020)

[21] HAVO stands is the abbreviation for 'senior general secondary education' (*Hoger algemeen voortgezet onderwijs*). VWO is the abbreviation for 'pre university education' (*Voorbereidend wetenschappelijk onderwijs*). Retrieved 12-1-2022 from: https://www.government.nl/topics/secondary-education/different-types-of-secondary-education/senior-general-secondary-education-havo-and-pre-university-education-vwo

[22] The G/T-level is further subdivided in a purely theoretical learning path (T stands for Theoretical) and a 'mixed' theoretical/practical learning path (G stands for *Gemengd* = mixed).

[23] VMBO is the abbreviation for 'pre-vocational secondary education' (*Voorbereidend middelbaar beroepsonderwijs*), Retrieved 12-1-2022 from: https://www.government.nl/topics/secondary-education/different-types-of-secondary-education/pre-vocational-secondary-education-vmbo

The Cito Test is not meant to be an IQ test (intelligence test). Cito even chose the scale of 501-550 in order to avoid the End Test being interpreted as an IQ test.[24] According to Cito – which also develops IQ tests – the main difference is that in the End Test the focus is on achieved learning progress, while in the intelligence tests also developed by Cito, the focus is on reasoning skills that are relatively little influenced by what is offered at school. Nonetheless, the End Test correlates rather strong with the 'Cito Intelligence Test Secondary Education' (*Cito Intelligentietest Voortgezet Onderwijs*, r = .76, N = 761 for age-based IQ-score and r = .74, N = 175 for grade-based IQ-score) and with the 'Cito Intelligence Test End-of-Primary-School-Test' (*Cito Intelligentietest Eindtoets Basisonderwijs*, r = .72, N = 520).[25] In the *Scientific justification of the 2010 End Test for Primary Education*, researchers conclude on the basis of several other studies that "End Tests and intelligence measures have somewhere between 50% and 60% of their variance in common"[26]. Both types of tests are used to support the advice on placement in secondary education. For example, the IQ-ranges in the leftmost column in the table below can be used for advisory purposes.[27]

School-advice & school type (bold)	Observed age-IQ in pupils per school-advice level[1]				Cito range associated with		IQ-range associated with school type[3]
	N	%	IQ (*M*)	IQ (*SD*)	school-advice[2]	school type[2]	
Practical education (PRO)							**[55-80][4]**
VMBO-B with LWOO							[75-90][5] 70-86
VMBO-B	**18**	**3,50%**	**88,9**	**10,7**	**501-520**	**501-523**	**77-90**
VMBO-B/K	37	7,2%	89,1	9,0	519-525		
VMBO-K	**48**	**9,3%**	**96,7**	**9,2**	**524-528**	**524-528**	**85-98**
VMBO-G/T	**122**	**23,7%**	**100,6**	**9,1**	**529-533**	**529-536**	**95-109**
VMBO-G/T / HAVO	60	11,7%	102,5	9,2	532-536		
VMBO-G/T / HAVO / VWO	12	2,3%	107,9	10,8	535-541		
HAVO	**63**	**12,2%**	**109,1**	**9,6**	**537-540**	**537-544**	**99-113**
HAVO / VWO	87	16,9%	114,4	9,7	540-545		
VWO	**68**	**13,2%**	**120,9**	**8,8**	**545-550**	**545-550**	**107-125**
Total	515	100,0%					

[1]Hop, M., Van Boxtel, H. W., Bechger, T. & B. Hemker (2013), pg. 74

[2]Van Boxtel, H. Engelen, R. & De Wijs, A. (2010), pg. 55

[3]IQ-ranges (not in square brackets) are derived from Hop, M., Van Boxtel, H. W., Bechger, T. & B. Hemker (2013), pg. 80

[4]For Practical Education (see corresponding term in Glossary) having an IQ within the given IQ-range (in square brackets) is part of the admission criteria provided by legislation.

[5]For Learning Support (see corresponding term in Glossary) having an IQ within the given IQ-range (in square brackets) is part of the admission criteria provided by legislation. Admission is also possible for pupils with an IQ in the 91-120 range if those pupils have 'learning-impeding social-emotional problems'. Learning support is often combined with VMBO-B, but can also be combined with other school types.

Cito Test See the term *Cito score*.

[24] Cito (2014) *Dossier Eindtoets Basisonderwijs 2014.* Retrieved 2-2-2022 from: http://docplayer.nl/16333261-Dossier-eindtoets-basisonderwijs-2014.html

[25] Hop, M., Van Boxtel, H. W., Bechger, T. & B. Hemker (2013), pg. 66

[26] Van Boxtel, H. Engelen, R. & De Wijs, A. (2010), pg. 11

[27] Hop, M., Van Boxtel, H. W., Bechger, T. & B. Hemker (2013), compare: Van Boxtel, H. W., & Hemker, B. T. (2009)

Cito under-advising and over-advising The Cito score is used for the so-called 'school advice' (see the term *Cito score*), that is, the advice given at the end of primary school regarding the most suitable school level for the secondary school. However, the Cito score is not the only determining factor for this school advice: the teacher's opinion also counts. Regularly, teachers advice a school level that is higher or lower than the school level that results from the Cito score alone. Advising a higher level is called 'over-advising' and advising a lower level is called 'under-advising'. Recently, however, there no longer seems to be no more over-advising or under-advising of children with a migrant background.[28]

COA "COA is short for *Centraal Orgaan opvang Asielzoekers*, in English: the Central Agency for the Reception of Asylum Seekers. We have been responsible for the reception, support and guidance of asylum seekers in the Netherlands since 1994. We support and guide them towards a future in the Netherlands or abroad."[29]

Cohort Statistics Netherlands[30] defines a cohort as a "group of people who have experienced the same (demographic) event during a certain period, such as a calendar year."

Costs and benefits See the term *net contribution*.

CPB The CPB – in full CPB Netherlands Bureau for Economic Policy Analysis – is the main research institute for economic policy analysis and policy advice in the Netherlands. In that capacity, it advises the government and regularly produces economic forecasts and reports. "CPB Netherlands Bureau for Economic Policy Analysis is an independent research institute that provides policy relevant economic analyses and projections. We conduct research on the Dutch economy in particular, and on socio-economic policy, in general. We translate scientific insights into everyday policy practice, providing a rational and factual basis for both policymakers and the public at large."[31]

CPB Netherlands Bureau for Economic Policy Analysis See the term *CPB*.

Dejuvination The phenomenon that, due to a low average number of children per woman, each generation is smaller than the previous one. A low number of children is a number of children below the so-called replacement level of approximately 2.1 children per woman. The replacement level is the number of children where each fertile woman has on average one fertile daughter, so that the population size remains constant in the long term (stationary population). As a result of dejuvination, the proportion of young people – usually defined as 0 to 20 years old – is lower than would be the case for a stationary population, hence the term dejuvination.

Discount rate The interest rate at which future amounts are discounted, that is, expressed in euros of a given base year. The current report takes 2016 as the base year and, following the CPB Netherlands Bureau for Economic Policy Analysis, assumes a real discount rate of 2.5%.[32] Unless otherwise stated, the amounts in this report are expressed in euros of 2016. See also the term *present value*.

[28] Onderwijsinspectie (2017), pg. 10
[29] Retrieved 2-2-2022 from: https://www.coa.nl/en/coa
[30] Statistics Netherlands, *Begrippen*, retrieved 15-12-2020 from: https://www.cbs.nl/nl-nl/onze-diensten/methoden/begrippen/cohort
[31] Retrieved 1-1-2022 from: https://www.cpb.nl/en/who-we-are
[32] See Adema, Y., & van Tilburg, I. (2019), pg. 41-42, see also Hoogendoorn, S. & G. Romijn (2020)

Discounting See the terms *discount rate* and *present value*.

Dutch background, generation Statistics Netherlands[33] provides the following definition: "Person with a Dutch background: Person whose parents were both born in the Netherlands, regardless of the country where they were born." Statistics Netherlands[34] defines the third generation as follows: "Persons whose parents were both born in the Netherlands, but at least one of whom has an immigration background, belong to the so-called third generation. People who belong to this generation, by definition, have a Dutch background."

Dutch native Dutch native (Dutch: *autochtoon*) was the former designation for a person with a Dutch background. See the term *Dutch background*.

Dutch School System See the term *Cito score*.

Education return This refers to the net contribution for a specific education level. In the calculations, this is used to determine the average net contribution weighted against a certain distribution over education levels. This term has been created in the current report to ascertain to what extent differences in net contributions according to immigration background are produced in the education system, or in the labour market, or in (self)selection by education level at the time of immigration. See also the term *Cito return*.

EEA The EEA (European Economic Area) is an agreement between the EU and EFTA (with the exception of Switzerland) that regulates the free movement of persons, goods, services and capital between the countries concerned. For EFTA member Switzerland, the free movement of persons applies through participation in Schengen. Persons from the EEA are allowed to live or work in the Netherlands without a residence permit or work permit, although there are some conditions.[35] See also the term *EFTA*.

EFTA The EFTA (European Free Trade Association) is a free trade association between Liechtenstein, Norway, Iceland and Switzerland.

Entry age The age at the time of immigration. Entry age makes a big difference to the costs and benefits of the remaining stay. At an entry age of five years, all costs for education and the like still have to be incurred. At an entry age of 25 years, the education costs have already been paid in the country of origin and there are still many years to pay tax and premiums in the Netherlands for care and old age pension. At an entry age of 70 years, the education costs have also been met, but there are few years to pay tax while the high costs of old age start immediately.

First-generation immigration background See the term *immigration background, generation*.

Fiscal costs and benefits See the term *net contribution*.

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[33] Statistics Netherlands, *Begrippen,* retrieved 15-12-2020 from: https://www.cbs.nl/nl-nl/onze-diensten/methoden/begrippen/persoon-met-een-nederlandse-achtergrond

[34] Statistics Netherlands, *Wie zijn de derde generatie?*, retrieved 15-12-2020 from: https://www.cbs.nl/nl-nl/nieuws/2016/47/wie-zijn-de-derde-generatie-

[35] See, for example: https://www.rijksoverheid.nl/onderwerpen/immigratie-naar-nederland/vrij-verkeer-en-verblijf-personen-binnen-eu-eer-en-zwitserland and https://ind.nl/eu-eer/Paginas/EUEER-burger-of-Zwitser.aspx

Generation See the terms *immigration background, generation* and *Dutch background, generation*.

Generational accounting In the current study, generational accounting refers to the method by which the net contribution to the treasury of persons and groups is calculated as explained under the term *net contribution*.

GIPS countries (region) The countries Greece, Italy, Portugal and Spain. The term comes from Statistics Netherlands. In the current report also Malta and Cyprus belong tot the GIPS countries, although for the sake of brevity this is not always explicitly mentioned.

Immigration background, generation Statistics Netherlands[36] provides the following definitions: "Person with a first-generation immigration background: Person who was born abroad and of whom at least one parent was born abroad" and "Person with a second-generation immigration background: Person who was born in the Netherlands and of whom at least one parent was born abroad."

Immigration profile An age profile of the probability distribution over the entry ages from 0 to 100 years for a particular immigrant group. These profiles have been calculated separately for a large number of groups. See the Technical Appendix for more details.

IND The Dutch Immigration and Naturalisation Service (IND) "assesses all applications from foreign nationals who want to live in the Netherlands or want to become Dutch citizens."[37]

Learning support education See the term *LWOO*.

LWOO LWOO stands for Learning support education (*Leerwegondersteunend onderwijs*). The criteria for admission are:

1. the pupil has either an IQ between 75 and 90[38] or the pupil has an IQ between 91 and 120 combined with learning-impeding social-emotional problems.
2. the pupil has a learning delay of one and a half to three years in two of the following domains: insightful arithmetic, reading comprehension, technical reading and spelling. Of these two domains, one must be insightful arithmetic or reading comprehension.[39]

Migration background See the term *Immigration background, generation*.

Migration balance Immigration minus emigration. This is based on the migration balance including so-called administrative corrections, i.e. corrections for emigration that has not been reported to the municipality.[40]

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[36] Statistics Netherlands, *Begrippen*, retrieved 15-12-2020 from: https://www.cbs.nl/nl-nl/onze-diensten/methoden/begrippen/migratieachtergrond

[37] Retrieved 2-2-2022 from: https://ind.nl/en/about-ind/Pages/default.aspx

[38] This range will usually be combined with VMBO-B level of education.

[39] Compare: *Landelijke criteria pro en lwoo 2018-2019.* Retrieved 6-2-2022 from: https://www.koersvo.nl/app/uploads/2018/07/2018-Landelijke-criteria-pro-en-lwoo-2018-2019.pdf

[40] Retrieved 2-1-2022 from: https://www.cbs.nl/en-gb/onze-diensten/methods/definitions/net-migration--incl-administrative-corrections--

Mortality probability The probability that a person of a specific age dies in a specific year. The mortality probabilities are based on the mortality probabilities that Statistics Netherlands uses for the population forecasts. See the Technical Appendix for more details.

Native Dutch reference This is a hypothetical immigrant who is identical to the average immigrant in 2016 in terms of immigration behaviour, pension accrual and the use of the old-age pension and social assistance disbursements from the age of 65 and is equal to the average native Dutch person in all other costs and benefits in 2016. 'All other costs and benefits' means all taxes and premiums, all allowances such as allowances for rent and health care, all costs for education, health care, public administration, defence, etc. and all costs for benefits, with the exception of the costs for the old-age pension and social assistance from the age of 65. Immigrants often have a higher use of social assistance from about the age of 65 because they have an insufficient accrual of old-age pension entitlements. The reason is that the old-age pension accrual is related to the length of stay in the Netherlands. Due to insufficient old-age pension entitlements, their old-age pension is often supplemented from social assistance. Hence, these two items are taken together here. Pension accrual is also lower, so that less taxes related to capital accrual are paid. Pension accrual is estimated at 62.5% of the pension accrual of native Dutch people. This percentage is based on the pension accrual of first-generation immigrants from Northwest Europe, Scandinavia and the British Isles. The hypothetical immigrant outlined here therefore behaves like the average immigrant when it comes to matters such as immigration, distribution by entry ages, probability of remigration, pension accrual and the use of the old-age pension and social assistance from the age of 65, but with regard to other costs and benefits he or she is identical to the average native Dutch person. This hypothetical immigrant is often used as a reference point for comparing actual immigrants.

Net contribution, net contribution over the (remaining) life course Sum of all net contributions by year of age for all ages – beyond the entry age for first-generation immigrants – that the person resides in the Netherlands. For people with a Dutch background and for those with a second-generation immigration background whose parents do not remigrate before the age of 18, it is the sum of the net contributions by year of age, calculated from birth to the moment of death. The net contributions are discounted by year of birth and weighted by mortality probabilities before being summed. For people with a first-generation immigration background, the probability of immigrating at a certain age is also weighed.[41] For persons with a second-generation immigration background whose parents remigrate before the age of 18, it is the sum of the net contributions by year of age, calculated from birth to the moment of remigration of the parents. For people with a second-generation immigration background, it is assumed that they never emigrate from the age of 18 and that they always accompany their parents until their 18th birthday if they remigrate, whereby their probability of remigration is derived from their parents' probability of remigration. The calculation of the net contribution is based on the observations in 2016, after corrections derived from the CPB Netherlands Bureau for Economic Policy Analysis for the expected development of policy and the economy. See also the terms *net contribution by future year of age* and net *contribution by entry age*. NB: in the main text, the short collective term "net contribution" is usually used for the net contribution over the (remaining) life course of all persons

[41] More precisely: for persons with a first-generation immigration background, the net contribution over the remaining life course is the sum of the net contributions by entry age, weighted against the immigration profile, i.e., weighted against the probability distribution over the entry ages from 0 to 100 for the group in question.

regardless of immigration background. This term is used for the net contribution of individuals and groups.

Net contribution by entry age The sum of all net contributions by future year of age, calculated from the relevant entry age until the moment of remigration or death. The net contributions are discounted according to the year of immigration and weighted by mortality probability and (if applicable) remigration probabilities before being summed. In the case of remigration, all costs and benefits from the year of remigration are disregarded, with the exception of the old-age pension received after remigration (if applicable and after deduction of taxes). This term refers specifically to first-generation immigrants and is calculated separately for each entry age. For the calculation of the net contribution without remigration, the remigration probabilities in the calculation are set to zero. The calculation of the net contribution by future year of age is based on the observations in 2016, after corrections for the policy and economic developments derived from the CPB Netherlands Bureau for Economic Policy Analysis (CPB) (see the term *net contribution per year of age*). In concrete terms: anyone staying in the Netherlands as a 40-year-old in 2030 will be allocated the costs and benefits of a 40-year-old in 2016, but discounted 14 years back to 2016. Thus, it actually concerns an immigrant's financial obligation (positive or negative) during future residence; it is not an expense in 2016.

Net contribution by future year of age The balance, on an annual basis, of the positive contributions (fiscal benefits) and negative contributions (fiscal costs) to the treasury, on average for a specific group of people of a specific age (in years). Positive contributions are, for example, taxes and premiums. Negative contributions are, for example, education costs and disbursements. The balance is created by subtracting the total costs from the total benefits. Concrete example: the net contribution of 40-year-olds with an MBO4 education is calculated by calculating the balance of the total benefits minus the total costs for all people aged 40 with an MBO4 education. The terms costs and fiscal costs, benefits and fiscal benefits, etc. are used interchangeably. The current study mainly used Statistics Netherlands microdata from the reporting year 2016, discounting future economic and policy developments based on expectations of the CPB Netherlands Bureau for Economic Policy Analysis. See the Technical Appendix for an explanation of the study population and the costs and benefits used on the basis of which the calculation was made.

Net contribution profile Profile of the net contribution by year of age, entry age or Cito score.

Net fiscal contribution See the term *net contribution*.

NIDI "NIDI – the Netherlands Interdisciplinary Demographic Institute – is the national demographic institute of the Netherlands."[42]

Non-Western immigration background, non-Western Statistics Netherlands[43] defines a person with a non-Western immigration background as "a person with an immigration background in one of the countries in Africa, Latin America and Asia (excluding Indonesia and Japan) or Turkey." See also the term *Western immigration background, Western*.

[42] Retrieved 1-1-2022 from: https://nidi.nl/en/about-us/

[43] Statistics Netherlands *Begrippen,* retrieved 15-12-2020 from: https://www.cbs.nl/nl-nl/onze-diensten/methoden/begrippen/persoon-met-een-niet-westerse-migratieachtergrond

PBL "Netherlands Environmental Assessment Agency [PBL] is the national institute for strategic policy analysis in the fields of the environment, nature and spatial planning."[44]

Personal primary income "Personal primary income includes a person's gross income from employment and from self-employment. Income from employment consists of gross salary (including employee and employer contributions to social insurance premiums), directors' fees and remuneration for work not performed in employment. Also wages in kind such as the value of the private use of the employer's car is included. Income from own business constitutes the remuneration of self-employed persons for the use of their labour and business assets."[45]

PPI See the term *Personal primary income*.

Practical education "Practical education is secondary education. Practical education prepares pupils as well as possible for society. All pupils follow their own development plan. Learning, working, citizenship and leisure time are important aspects in this. The training usually lasts 5 years."[46] Practical education (*praktijkonderwijs*) is education for children with what can be called a 'difficult learning intelligence profile' (*moeilijk lerend intelligentieprofiel*): "Practical education has the following admission criteria:

1. [the] child has an IQ between 55 and 80
2. [the] child has a learning delay of three years or more in two of the following domains: insightful arithmetic, reading comprehension, technical reading or spelling. One of the domains must be insightful arithmetic or reading comprehension."[47]

Present value Converting future costs and benefits back to their value in the present with a discount rate (also called interest rate) r in percentages. The present value of €1,000 available to a person in one year is €1,000/(1 + $\frac{r}{100}$), because if this amount is lent at interest rate r for one year, then it is worth $ 1,000. In concrete terms: at a discount rate r of 5%, the cash value of €1,000.00 is equal to €952.38, because this amount, set against 5% interest, is worth €1,000.00 after one year, since €952.38 × 1 .05 = €1,000.00. Discounting over longer periods uses the calculation repeatedly, as a reversal of the calculation of compound interest (also known as interest over interest). In concrete terms: at a discount rate r of 5%, the cash value of €1,000.00 over three years is equal to €863.84 because this amount plotted at 5% interest after three years is worth €1,000.00, since €863.84 × 1.05 × 1.05 × 1.05 = €863.84 × $(1.05)^3$ = €1,000.00. See also the term *discount rate*.

Probability of remigration The probability that a first-generation immigrant will remigrate, depending on the number of years of residence and the entry age. These probabilities have been calculated separately for a large number of groups. See the Technical Appendix for more details.

Profile See the terms *age profile* and *net contribution profile*.

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[44] Retrieved 1-1-2022 from: https://www.pbl.nl/en/about-pbl

[45] Translated from Dutch, CBS, *Inpatab: Inkomen van personen*, retrieved 24-1-2020 from: https://www.cbs.nl/nl-nl/onze-diensten/maatwerk-en-microdata/microdata-zelf-onderzoek-doen/microdatabestanden/inpatab-inkomen-van-personen

[46] Central government (*Rijksoverheid*). Retrieved 2-1-2022 from: https://www.rijksoverheid.nl/onderwerpen/voortgezet-onderwijs/vraag-en-antwoord/hoe-zit-het-praktijkonderwijs-in-elkaar

[47] Central government (*Rijksoverheid*). Retrieved 2-1-2022 from: https://www.rijksoverheid.nl/onderwerpen/passend-onderwijs/vraag-en-antwoord/hoe-krijgt-mijn-kind-praktijkonderwijs

Regional classification Immigrants in the Netherlands or their parents come from other countries, their countries of origin. For an overview and to obtain sufficiently large groups, many countries have been combined into regions in this report. The largest regions are those based on the Western and non-Western classification of Statistics Netherlands. Subsequently, a 12-part division is used in the current report which is also used by Statistics Netherlands in the population forecasts. This division is a further refinement of the Western and non-Western regions. The Western regions are: European Union, Rest of Europe, Indonesia, Other outside Europe. The non-Western regions are Asia (excluding Indonesia and Japan), Turkey, Morocco, Africa (excluding Morocco), Suriname, the (former) Netherlands Antilles and Aruba, and Latin America (excluding Suriname, Aruba and Antilles). In the current report, this is further broken down into a 42-part division, as shown in Table 4.3. In addition, incidental use has been made of a 19-part division, which lies between the 12-part and 42-part divisions. Furthermore, incidental use has also been made of an 87-part division which is a further breakdown of the 42-part division. Because the Netherlands is one of the regions and is not included in every calculation, with the 42-part division there is usually a reference to "41 regions", etc. See the Technical Appendix for more details. See also the terms *Non-Western immigration background*, *non-Western and Western immigration background, Western*.

SCP "The Netherlands Institute for Social Research (SCP) is a government agency which conducts research into the social aspects of all areas of government policy."[48]

SEC See the term *standard education classification*.

Second-generation immigration background See *immigration background, generation*.

Smooth, smoothed, smoothing Making graphs "smooth" for better readability, in the current report by taking the (weighted or not) average of the value itself and some surrounding values.

South Africa See the term *Southern Africa* (region).

Southern Africa (region) The Southern Africa region (South Africa, Lesotho, Swaziland, Namibia and Botswana) should in principle not be confused with the country of South Africa. In the context of this report, however, this region is completely dominated by South Africa, in the sense that immigration from the other countries from the Southern Africa region is small in size. That is why we regularly refer to South Africa instead of Southern Africa. Moreover, a considerable percentage of the immigrants from South Africa have older or newer Dutch roots. Of all immigrants – both with and without a South African immigration background – who immigrated from South Africa to the Netherlands between 1995 and 2015, 25% were born in the Netherlands[49] and of this group about one in eight has a second-generation South African immigration background. If we only look at the immigrants with a South African immigration background, then over the period 1995-2015 about 4% belonged to the second generation which is – by definition – born in the Netherlands[50], which indicates an earlier residence of the family concerned in the Netherlands. Finally, immigration from South Africa is elite immigration. South Africa has been suffering for decades from a brain drain from highly educated emigrants to countries

[48] Retrieved 1-1-2022 from: https://english.scp.nl/about-scp

[49] CBS-StatLine, *Migratie; land van herkomst / vestiging, geboorteland en geslacht,* retrieved 1-1-2020 from: https://opendata.cbs.nl/statline/#/CBS/nl/dataset/60032/table?dl=4009D

[50] CBS-StatLine, *Immi- en emigratie; per maand, migratieachtergrond, geslacht*, retrieved 15-12-2020 from: https://opendata.cbs.nl/statline/#/CBS/nl/dataset/83518NED/table?dl=4009E

such as Australia, New Zealand, Canada, the US, the UK and – to a small extent – also the Netherlands. South African immigrants in the Netherlands are notable for their high income, low benefit dependency and – as far as the children are concerned – high Cito scores.

Special education Special education is an umbrella term used in the current report for two types of special education in the Netherlands: Special Education and Secondary Special Education (*Speciaal Onderwijs* and *Voortgezet Speciaal Onderwijs*). (Secondary) Special Education is for pupils who, due to a disability or disorder, require specialised or intensive support, subdivided into clusters for: (1) visually-impaired or blind pupils, (2) hearing-impaired or deaf pupils and/or pupils with a language-speech development disorder, (3) physically and/or mentally disabled pupils, and long-term sick (somatic diseases) pupils and (4) pupils with psychological and behavioural problems. These forms of special education are subject to special admission criteria and procedures.

Special Primary Education Special Primary Education (*Speciaal Basisonderwijs*) is meant for children who cannot keep up at a regular primary school due to what can be called 'difficult learning intelligence profile' (*moeilijk lerend intelligentieprofiel*) and/or a learning disadvantage and/or behavioural problems or a behavioural disorder.

Standard Education Classification This is – as the name implies – the standard classification of educational levels that Statistics Netherlands uses in its publications (in Dutch: *Standaard Onderwijs Indeling, SOI*). In the current report, the SEC 2016 is used. There are 3-part, 5-part, 8-part and 18-part divisions in education levels. Schematically[51], the breakdown for the 3-part (yellow), 5-part (grey) and 8-part divisions (no colour) of the SEC 2016 are given in the table below. The comparable levels according to the International Standard Classification of Education (ISCED 2011)[52] are given in the columns 'Comparable ISCED 2011 categories. However, the SEC 2016 and ISCED 2011 are not completely congruent. The vast majority of the people (and sometimes everybody) with a specific SEC 2016 level fits in the ISCED 2011 level given in column 'Most people fit in'. [53] The rest of the people (often only a small percentage[54]) with that particular SEC 2016 level will then fit in the ISCED 2011 category given in the column 'Some people fit in'. In the column 'Name in report' a name is given which is used in the current report which is as close as possible to the ISCED 2011 categories. For the 8-part division of 'lower secondary' and 'upper secondary' an optional reference to the name of the Dutch school type that dominates the SEC 2016 category in question is given in brackets. Furthermore in secondary education a distinction can be made between vocational and theoretical (or general) education.

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[51] Statistics Netherlands, *Standaard Onderwijsindeling 2016*, retrieved 1-2-2021 from: https://www.cbs.nl/nl-nl/onze-diensten/methoden/classificaties/onderwijs-en-beroepen/standaard-onderwijsindeling--soi--/standaard-onderwijsindeling-2016, in particular pg. 10-11

[52] UNESCO Institute for Statistics (2011) *International Standard Classification of Education*, *ISCED 2011*, retrieved 14-5-2021 from: http://uis.unesco.org/sites/default/files/documents/international-standard-classification-of-education-isced-2011-en.pdf

[53] Statistics Netherlands, *Standaard Onderwijsindeling 2021*, retrieved 14-5-2021 from: https://www.cbs.nl/-/media/cbs/onze-diensten/methoden/classificaties/documents/2021/standaard-onderwijsindeling-2021-ed-2021.pdf, in particular Table 3a pg. 14

[54] NB: only a small percentage of the people in the category 'Hbo-, wo-master, doctor' in Table 3a (see previous footnote) fit in the category '3211 Hbo-master', hence the influence of the 44% / 56% split of the category 'Hbo, wo-master, doctor' is limited; compare for example: Statistics Netherlands, *Ho-cohorten; behaalde hbo- en wo-diploma's*, retrieved 14-5-2021 from: https://opendata.cbs.nl/statline/#/CBS/nl/dataset/83282NED/table?dl=52B39

	Comparable ISCED 2011 categories		
SEC 2016 level	**Most people fit in:**	**Some people fit in:**	**Name in report:**
1 Lower education			**lower education**
11 Primary school			primary
111 Primary school	1 primary		primary
12 Vmbo, havo-,vwo-onderbouw, mbo1			lower secondary
121 Vmbo-b/k, mbo1	2 lower secondary	1 primary	lower secondary vocational (VMBO B/K)
122 Vmbo-g/t, havo-, vwo-onderbouw	2 lower secondary		lower secondary theoretical (VMBO G/T)
2 Intermediate education			**intermediate education**
21 Havo, vwo, mbo			upper secondary
211 Mbo2 and mbo3	3 upper secondary	4 post-secondary nontertiary	upper secondary vocational (MBO 2, 3)
212 Mbo4	3 upper secondary	4 post-secondary nontertiary	upper secondary vocational (MBO 4)
213 Havo, vwo	3 upper secondary		upper secondary theoretical (HAVO, VWO)
3 Tertiary education			**higher (tertiary) education**
31 Hbo-, wo-bachelor			bachelor (or equivalent)
311 Hbo-, wo-bachelor	6 bachelor or equivalent	5 short cycle tertiary	bachelor (or equivalent
32 Hbo-, wo-master, doctor			master (or equivalent)
321 Hbo-, wo-master, doctor	7 master or equivalent	8 doctoral or equivalent	master (or equivalent)

Statistics Netherlands (CBS) is the official national statistical office of the Netherlands, established in 1899 and regulated by the Statistics Netherlands Act.[55]

Statistics Netherlands microdata Statistics Netherlands keeps statistics on an individual level in a large number of areas. This includes matters such as income, taxes, premiums, healthcare costs and participation in education. Many of these statistics have been collected on all residents of the Netherlands to which they apply. In connection with privacy, these data are properly secured and anonymized, so that it is impossible to be traced back to individuals. These data are available for research under strict conditions. Many of the calculations in this report are based on these Statistics Netherlands microdata.[56]

Statistics Netherlands table population Statistics Netherlands[57] defines a table population as a "fictional cohort of usually 100 thousand men or women who are exposed at any age to the gender and age-specific mortality probabilities as observed in a certain period or for a certain birth cohort." The

[55] Retrieved 31-12-2021 from: https://www.cbs.nl/en-gb/over-ons/organisation
[56] Statistics Netherlands, *Catalogus microdata*, retrieved 15-12-2020 from: https://www.cbs.nl/nl-nl/onze-diensten/maatwerk-en-microdata/microdata-zelf-onderzoek-doen/catalogus-microdata
[57] Statistics Netherlands, *Begrippen*, retrieved 15-12-2020 from: https://www.cbs.nl/nl-nl/onze-diensten/methoden/begrippen/tafelbevolking

2016 table population[58] was used, among other things, to quickly and easily weigh an age profile against empirically observed mortality probabilities, possibly in combination with discounting.

Sustainability gap The deficit that occurs when the present value of the government's receipts are insufficient to cover total liabilities if current public arrangements (such as welfare state arrangements) would be continued for ever.

Synthetic. As we cannot use truly longitudinal profiles where an individual's cost and benefits are measured at every age, we compose synthetic age profiles by combining observations at different ages for comparable individuals. More in general, age profiles are composed synthetically by combining different regions of origin, educational levels, cohorts, et cetera. Some specific examples: if there are only a few observations for a certain region and age group, (e.g., people in their nineties from North Africa), the data has been supplemented with data from the larger region of which the region in question is part (in this example, Africa). Second, the net contribution profiles by educational level are composed of profiles for different age groups. Concrete example: the net contribution profile of a person with a bachelor's degree as the highest attained education, runs from 0 to 99 years and is composed of data from different age groups, namely children up to four years old, primary school pupils, students in both lower and upper secondary theoretical education (HAVO and VWO school types in Dutch), students who are pursuing a bachelor's degree, and persons who have completed a bachelor's degree.[59] Third, the net contribution profiles by Cito score are composed of profiles for different groups. For ages up to 21 years, a direct calculation of the net contribution to Cito score has been used. For ages 21 to 38, each Cito score for each individual age is reduced to the probability that a person of that Cito score and age is studying and pursuing a particular education, or not studying and has completed a particular education as the highest education attained. Different cohorts of educational participants were used for this purpose because the available time series are too short to be able to do this on the basis of one group. Subsequently, the net contribution profile by Cito score was compiled on the basis of the net contribution profiles for the various educational levels (for students and non-students). Fourth, in a number of calculations (safety concern, degree of integration of the second generation), the data for the 42-part division was used and the results of the above regions were determined as weighted averages (by size of the sub-populations). See the Technical Appendix for more examples and details.

Technical Appendix A document that gives an explanation of the methods that were followed that can either be purchased (ISBN: 9789083334837) or downloaded as a pdf, see https://demo-demo.nl/en/

Third-generation immigration background See the term *Dutch background, generation*.

WAO The former disability scheme in the Netherlands that was – for new cases – replaced by a scheme called WIA in 2005.

[58] Statistics Netherlands-StatLine *Levensverwachting; geslacht, leeftijd (per jaar en periode van vijf jaren)*, retrieved 15-12-2020 from: https://opendata.cbs.nl/statline/#/CBS/nl/dataset/37360ned/table?dl=4A3CA

[59] For ages from 21 to 38, the calculation in this concrete example is based on the weighted average of the profile for students who are studying for an HBO or WO bachelor's degree and the profile for people who are no longer pursuing an HBO or WO bachelor's degree as the highest degree obtained. See also the Technical Appendix.

Western immigration background, Western Statistics Netherlands[60] defines a "Person with a Western immigration background" as a person with an immigration background in one of the countries in Europe (excluding Turkey), North America and Oceania, and Indonesia and Japan. On the basis of their socio-economic and sociocultural position, persons with an immigration background from Indonesia and Japan are included in the Western immigration background. This mainly concerns people who were born in the former Dutch East Indies and employees of Japanese companies with their family." See also the term *non-Western immigration background, Western*.

WIA See the term *WAO*.

WODC "The Scientific Research and Documentation Centre (WODC) is the knowledge institute for the Ministry of Justice and Security. The WODC conducts its own independent scientific research or has this done by recognised institutes and universities, in support of policy and implementation."[61]

WRR "The Netherlands Scientific Council for Government Policy (WRR) is an independent advisory body for government policy. Its position is governed by the Act Establishing a Scientific Council on Government Policy of 30 June 1976 (*Instellingswet WRR*). The task of the WRR is to advise the Dutch government and Parliament on strategic issues that are likely to have important political and societal consequences."[62]

[60] Statistics Netherlands *Begrippen*, retrieved 15-12-2020 from: https://www.cbs.nl/nl-nl/onze-diensten/methoden/begrippen/persoon-met-een-westerse-migratieachtergrond
[61] Retrieved 17-9-2021 from: https://www.wodc.nl/
[62] Retrieved 31-12-2021 from: https://english.wrr.nl/about-us

1 Introduction

1.1 Immigration as a policy-relevant phenomenon

Immigration – or in other words, long-term geographic relocation – is a natural phenomenon that is literally and figuratively as old as humanity. Through an ongoing process of immigration, humans have made the farthest corners of the planet their homes.

Due to increased transport and communication options, travel and thus immigration is in many ways easier, faster and cheaper to realize than ever before. Mobile phones and the internet ensure easy access to a lot of information about travel options and destinations.

On the other hand, the world is divided into nation states with borders. Therefore, free immigration is not possible. The right to travel from the state of which one is a citizen is generally recognized, but there is no such thing as a right to migrate to a state of which one is not a citizen. The UN Refugee Convention also does not give that right; it only requires that a state not deport an asylum seeker who is in its territory if he or she has a well-founded fear of persecution upon expulsion. In today's reality, therefore, immigration is in principle a state-regulated phenomenon.

At the same time, a movement is underway that is diminishing states' sovereignty over immigration. For the Netherlands, an important factor is European integration. EU citizens have the right, under certain conditions[63], to settle freely in other EU countries of which they are not citizens. In addition, over the years immigration has increasingly become the domain of international law. Humanitarian immigration within the framework of the UN Refugee Convention and a regular appeal to the European Convention on Human Rights are expressions of this. A more recent manifestation is the attempt to facilitate illegal immigration through the "Marrakesh Pact". This internationalization and juridification are partly causing a de-politicization and de-democratization of the immigration issue, which is less and less under the democratic control of sovereign states.

Insofar as the state has a direct influence on immigration, the state must consider which citizens of other countries are allowed to enter the territory. This makes immigration a uniquely policy-relevant topic. The primary task of the Dutch government is to serve the interests of the State of the Netherlands and the Dutch citizens. In order to do this optimally with regard to immigration, it is important to know what effects immigration has on the Netherlands.

Insofar as the state has no direct influence on immigration – such as in the case of asylum and the free movement of labour within the EU – it is also necessary that policymakers are informed about the effects of immigration. After all, these forms of immigration hardly concern the question of *what* the Dutch immigration policy should be – because the Netherlands has too little room to manoeuvre for that – but above all whether or not immigration policy should actually be Dutch policy. Surely sovereignty has largely been replaced by international law. However, this does not alter the fact that the consequences of international immigration still have a local impact in immigration countries such as the Netherlands. Thus, if policymakers have to choose between greater sovereignty or the current

[63] Strictly speaking, there is no general right to freedom of establishment in another member state in the EU. There is only free movement of labour, i.e., employees or self-employed persons and their family members. For example, pensioners are subject to restrictions on self-reliance (in particular income and health insurance) for residing in another EU member state, see for example: https://europa.eu/youreurope/citizens/residence/residence-rights/pensioners/index_en.htm

situation of limited control over asylum and immigration within the EU, they must also be well informed about the effects of immigration.

It is undeniably true that immigration has significant effects on Dutch society. First, immigration has demographic consequences. In recent years, the growth of the Dutch population has been entirely related to immigration. The indigenous population is shrinking due to emigration, fewer children and a high mortality rate associated with demographic ageing. Without immigration, the population would therefore decline steadily to about 13-14 million by the end of the century. However, if the annual migration balance remained at its current level until the end of the century – an average of about 80,000 persons per year over the period 2015-2019 – then the population would grow rapidly and in 2100 number about 23 to 24 million souls. The difference in population size between a continuation of the current migration balance and a migration balance of zero then amounts to approximately 10 million people. Each increase in the annual migration balance of 10,000 people means approximately 1.2 million extra inhabitants at the end of the century.[64] In an already densely populated country like the Netherlands, population size determines many issues, including public housing, spatial planning, traffic congestion, ecological footprint, climate goals and nature conservation. This makes population growth and immigration – the main cause of population growth – extremely policy-relevant issues.

In addition, immigration also changes the composition of the population. Ethnic, religious and cultural diversity is increasing, for example when it comes to food culture, music and other outward manifestations. On the one hand, this increased diversity has positive aspects for many residents. On the other hand, it also presents society and politics with all kinds of challenges. The Netherlands Scientific Council for Government Policy (WRR) associates a high degree of diversity with, for example, low social cohesion and feelings of loss and insecurity.[65] The greater the diversity of origin in the residential community, the greater the chance that crimes are committed. In diverse neighbourhoods, residents are more likely to feel unsafe. The neighbourhood cohesion experienced by residents is also weaker and people feel less comfortable in their own neighbourhood. According to the WRR, "The results indicate that living together in (very) diverse neighbourhoods and municipalities is more complicated."[66] In short, many residents of the Netherlands experience the increased diversity as enriching. However, where conflicting value systems or competing legal systems are concerned, or when the local situation makes coexistence more difficult, this raises all kinds of policy-relevant questions.

Immigration also has economic effects. First, it has labour market effects. For example, immigration is a way of attracting workers who are insufficiently available in the domestic labour market. Some high-tech companies are attracting bright minds from around the world for applied scientific research in order to stay at the forefront of the global innovation race. However, displacement effects can also occur on the labour market. They can take on different guises. A displacement of residents towards better-paying jobs is possible – and that does not have to be unfavourable at all – but a displacement out of the labour process or into social security is also one of the possible negative outcomes.

Moreover, redistribution effects can also occur. The influx of migrants changes the relationship between capital and labour. Labour is becoming relatively more abundant, putting the price of labour – the wage – under pressure. Immigration can thus affect the distribution of income between the

[64] Our own calculation, for explanation see the Technical Appendix.
[65] Jennissen et al. (2018)
[66] Jennissen et al. (2018), pg. 118

providers of labour and capital. In a similar way, the income distribution between the high and low educated can change if their average level of education differs significantly from the average level of education in the host society. For example, if the immigrants are predominantly low-skilled, this could worsen the position of the low-skilled already present in the population. In that case, redistributive effects can be expected that are contrary to the redistributive effect of the welfare state. In a socio-economic system such as ours, with a minimum wage and a social safety net, an influx of low-skilled or low-productive migrants will, however, partly translate into higher benefit dependency.

Finally, the fiscal consequences of immigration are also important. The description of these fiscal consequences forms the core of this report. Immigrants, like residents, contribute to the treasury through taxes and the like, and also enjoy all kinds of treasury-funded services, such as social security, care, education and security (police, justice and crime). Immigrants may, however, differ among themselves and from residents in the extent to which they are net payers to the government or net recipients of the government over their entire life course. This depends, among other things, on the level of education and labour participation and is closely interwoven with the aforementioned redistribution effects of the welfare state.

The policy relevance of the current report is confirmed by the regularly appearing demographic ageing studies from the CPB Netherlands Bureau for Economic Policy Analysis in which the impact of demographic changes (births, deaths and immigration) on the sustainability of public finances and welfare state is also calculated using exactly the same method (generational accounting). Current report shows that the negative impact of immigration – expressed as a percentage of the gross domestic product (GDP) – over the period 2015-2019 was on average more than twice as large[67] as the current impact of demographic ageing[68]. That makes it all the more remarkable that so little attention is paid to the consequences of immigration on public finances. An integrated study of the economic and demographic effects of immigration is indispensable for good government policy. The current report aims to contribute to the study of the policy-relevant effects of immigration to the Netherlands. ↲

1.2 Objective

The objective of this report is twofold. The primary objective is to answer the following two questions:

- What are the fiscal costs and benefits of immigration related to the region of origin and/or the immigration motive (labour, study, asylum and family immigration)?
- To what extent can immigration provide a solution to demographic ageing in the Netherlands?

There is also a secondary objective, namely to use this report to arrive at a more complete and structural monitor of the economic and demographic effects of immigration. This objective cannot be achieved within the framework of this report, but the authors do want to give a first impetus to this with this report. The realization of such an integrated and periodically repeated monitor should ideally be a collaboration between the CBS, CPB, PBL and SCP.[69] Such a structural monitor of the economic and demographic effects of immigration would fit well within the 'State of Migration', the report in

[67] An average of 27 billion per year over the period 2015-2019, which is 3.8% of GDP on a GDP of 708 billion euros, CBS-statline, *Opbouw binnenlands product (bbp); nationale rekeningen*, retrieved 12-2-2021 from: https://opendata.cbs.nl/statline/#/CBS/nl/dataset/84087NED/table?dl=4D597

[68] The CPB calculated this at 1.6% of GDP in 2019, see Adema, Y., & van Tilburg, I. (2019), pg. 16

[69] Important Dutch knowledge institutes that advise the government, see Glossary.

which, starting in 2021, the government intends to provide annually 'an integral factual picture of migration':

> "I hereby also inform your Parliament of the manner in which the annual reports on migration ... will be continued from this year ... [namely in the form of] an annual overview of migration in a 'State of Migration', providing an integral factual picture of the related aspects of migration. The government shares the view that these overviews can contribute to the debate and knowledge on migration policy. An integral and factual account on components of asylum and migration policy is a contribution to this. To this end, we are also conducting exploratory talks with organisations and knowledge institutes [like CBS, CPB, PBL and SCP] for a factual contribution based on the products published by them."[70]

1.3 Study design, scope and limitations

To answer the questions posed, we proceeded as follows. This study builds on the study *Immigration and the Dutch Economy* from 2003[71] of the CPB Netherlands Bureau for Economic Policy Analysis (CPB) in which, among other things[72], the fiscal costs and benefits of non-Western immigration were calculated. As in the CPB study, the net contribution of first-generation immigrants to the treasury is calculated using so-called generational accounting.

Generational accounting looks at what a person contributes to public finances over his/her life in the form of taxes, duties and the like and what he or she receives from the treasury in the form of education, benefits and the like. Generational accounting is regularly used by the CPB, among others, to determine the sustainability of public finances in the light of demographic ageing. This study is in line with the work of the CPB as much as possible by using the same calculation method.

A strong point of the current report is that it is based as much as possible on CBS microdata – highly detailed, anonymised data from Statistics Netherlands (CBS) – which is available at the individual level from almost all inhabitants of the Netherlands. This makes it possible to break down the exact amounts – such as those registered by organizations such as the tax authorities, health insurers and benefits agencies at the individual level – according to relevant characteristics such as immigration background and level of education. Even in cases where no direct, registered data is available, the approaches used are often based on CBS microdata. This gives a level of detail and exactness that is impossible to achieve without microdata.

In addition, most cost and benefit items are also allocated to individuals. However, due to limitations in the availability of data and the available data budget, no distinction was made in the calculation of a number of cost and benefit items according to group characteristics such as immigration background and education level. This applies to healthcare costs that are not covered by compulsory basic insurance, such as long-term medical costs. With regard to these healthcare costs, a distinction is only made by age on the basis of CPB data. The same is applies to a number of smaller, less well-known social

[70] Parliamentary letter of the State Secretary for Justice and Security, 23 February 2021, *Immigration Chain Incident Overview and State of Migration* (Kamerbrief Staatssecretaris van Justitie en Veiligheid, 23 februari 2021, *Incidentenoverzicht Vreemdelingenketen en staat van migratie*), retrieved 12-3-2021 from: https://www.rijksoverheid.nl/documenten/kamerstukken/2021/02/23/tk-informatievoorziening-incidentenoverzicht-vreemdelingenketen-en-staat-van-migratie

[71] Roodenburg, H., R. Euwals & H. ter Rele (2003)

[72] This CPB study also contains several other analyses that are not updated in this study.

security schemes. Finally, with regard to the costs for public administration, a distinction is only made between groups with regard to security – which includes police and law enforcement – and the admission policy insofar as it relates to asylum reception, residence permits and civic integration. For the other costs for public administration, the same amount has been used for all residents in the Netherlands. As a result, the calculated differences in costs and benefits between groups may be somewhat smaller than they actually are and the calculation gives an underestimation of the differences between groups. In that sense, the calculations can be called conservative.

Moreover, for a number of items – such as government expenditures on defence, infrastructure and development cooperation and government income from land sales – no distinction has been made between persons or groups, because it is difficult to allocate these items in an objectifiable manner to persons or groups. The amount for each of these items has – in accordance with the CPB – been kept the same for all persons. For details on the operationalization of the cost and benefit items, see the Technical Appendix.

This research focuses on a good and accurate description of the fiscal costs and benefits of immigration. The description focuses on the costs and benefits of immigration, broken down by immigration background and immigration motive (asylum, labour, study and family immigration). Furthermore, following the international literature, a breakdown has been made according to education level and school performance (in the form of school test scores) in order to gain insight into the differences between origin groups and immigration motives and the relationship between generations. A limitation is that it is not broken down by gender.

Due to the objective and the resulting descriptive nature of this study, testing causal relationships has not been an end in itself. In a number of cases, when describing the costs and benefits, a (possible) relationship was found between two or more variables. A relationship between variables may indicate a causal relationship, but does not in itself prove that there is a causal relationship. This would require further research. In most cases it has been indicated that this falls outside the scope of this study. In a number of cases, the relationships found have been presented to serve as the impetus for such further research. The limitations and suggestions for further research are further explained in the Technical Appendix.

1.4 Reading guide

This report is structured as follows. In Chapter 2 the context of the report is outlined. The development of immigration flows and immigration policy over time is considered. The most important economic effects of immigration are also reviewed on the basis of international literature. Chapter 3 provides a literature review regarding the effects of immigration on the public sector – the fiscal impact – which are also the main topic of the current study. This chapter further explains the distinction between the two main methods of calculating the balance of fiscal costs and benefits, namely the static approach (a snapshot that does not take past and future into account) and the dynamic approach (a calculation with respect to the entire expected life course or length of stay based on observations in the present). The dynamic approach has been applied in the current report.

In Chapters 4 to 6, the costs and benefits of immigration are presented, broken down by region of origin and immigration motive. In these chapters, the core concept of “net contribution” – in full the “net contribution over the (remaining) life course” – plays a key role. In short, the net contribution is the balance – benefits minus costs – of a person's contribution to the treasury, calculated over his/her

entire life course, from birth or immigration to death or remigration. In Chapter 4, the net contribution of first-generation immigrants is provided. Chapter 5 discusses the net contribution and degree of integration of the Dutch-born children of immigrants, that is, the second generation. In Chapter 6 the net contribution of the first and second generation together is presented. This is not necessarily the sum of the results of Chapters 4 and 5, because we must take into consideration such things as the average number of children per woman and the fact that some of the children are born in the country of origin and therefore according to the definition of the CBS belong to the first generation.

The analysis is further explored in Chapters 7 to 9. Chapter 7 discusses the net contribution of immigrants who came to the Netherlands during the period 1995-2019. This is done for the total of all immigrants as well as for subgroups broken down by region of origin and immigration motives such as asylum, work, study and family. In addition, for the years 2020-2040, a forecast of the total net costs is given for three immigration scenarios, whereby it is striking that none of the scenarios show a positive balance. Chapter 8 discusses the costs and benefits of immigration, broken down into a number of sub-items such as taxes, benefits, allowances and care. Chapter 9 consists of two parts. The first part explains how differences in school test scores and educational level across the generations affect the net contribution. The second part lists some lessons about integration that can be learned from it.

Chapters 10 and 11 deal with the question of whether immigration can be a solution to the issue of demographic ageing. Chapter 10 examines whether immigration can be a solution to demographic ageing itself. Chapter 11 answers the question of whether immigration is a realistic option to absorb the costs of demographic ageing.

In Chapter 12 – Discussion – the policy relevance of the research results is interpreted in the light of the limited sovereignty of the Netherlands with regard to immigration and the incompatibility of free immigration and the welfare state. Finally, a justification of the research methods is given in the Technical Appendix.

2 Context, immigration, immigration policy and economic effects

By Gerrit Kreffer, Joop Hartog and Jan van de Beek

2.1 Introduction

To outline the broader context, this chapter provides a brief overview of a number of relevant demographic, legal and economic aspects of immigration. In §2.2 some demographic effects of immigration are explained, including the phenomenon that the population with an immigration background is growing steadily due to immigration, while the population with a Dutch background is steadily shrinking due to a low number of children. The demographic change triggered by a combination of low fertility and high immigration has been dubbed the 'Third Demographic Transition' by British demographer David Coleman.[73] At the end of §2.2, attention is paid to the relationship between probability of remigration and benefit dependence, in relation to the so-called 'welfare magnet hypothesis' – the assumption that a welfare state attracts (low-skilled) immigrants. In §2.3, an outline is given of the development over time of the legal regulation of immigration, which of course influences the nature and extent of immigration. Finally, §2.4 highlights some important economic aspects of immigration. In its 2003[74] immigration study, the CPB Netherlands Bureau for Economic Policy Analysis (CPB) distinguished three types of economic effects of immigration:

1) income effects related to the functioning of the labour market;
2) effects on public resources (which ultimately lead to income effects);
3) effects (including income effects) of increasing population density.

In Chapters 0 to 8, the current report presents a calculation of the effects mentioned under 2), the effects of immigration on public resources. The economic effects of immigration referred to under 1) and 3) are discussed in §2.4 on the basis of scientific literature. The welfare magnet hypothesis is also briefly addressed. The literature on the effects on public resources[75] is summarized in Chapter 3.

2.2 Development of immigration and population size

The Netherlands has undeniably been an immigration country for a long time. This is not so much the result of a deliberate policy, in which the wishes of the Dutch voters are expressed, but simply a fact. This is illustrated in Figure 2.1, where the number of immigrants per 1000 inhabitants is given for the Netherlands and the United States – a country that is seen by many as *the* preeminent immigration country. Over the period 1950-2018, immigration per 1000 residents for the Netherlands (the dotted orange line) exceeds the immigration per 1000 residents in the United States (the dotted blue line) each year.

However, the Netherlands has a more dynamic immigration pattern than the US: a relatively large number of immigrants arrive, but a relatively large number of people also leave.[76] The migration balance (immigration minus emigration) per 1000 inhabitants is therefore generally lower for the Netherlands (solid orange line) than for the US (solid blue line). However, a sharp upward trend has been

[73] Coleman, D. (2006)
[74] Roodenburg, H., R. Euwals & H. ter Rele (2003)
[75] Also referred to as the fiscal effects, budgetary effects or effects on public finances.
[76] In addition to people with a first-generation immigration background who remigrate, many people born in the Netherlands also emigrate, both people with a Dutch background (native Dutch) and people with a second-generation immigration background.

observed for the Netherlands since about 2010. The Dutch migration balance per 1000 inhabitants even exceeds the number of immigrants to the US per 1000 inhabitants during the period 2015-2019.

This large-scale immigration is a relatively recent phenomenon. In the nineteenth and early twentieth centuries, immigration in the Netherlands – unlike in the US, for example – was a fairly limited phenomenon.[77] On average, more people left than came, partly due to emigration to countries such as the US. Immigrants who came to the Netherlands mainly came from the colonies and surrounding countries. In part, this involved labour immigration, such as miners from Germany, Poland and Italy. During the interwar period, many German maids also offered their services in this country. Another part involved what would now be called humanitarian immigration. During the First World War there was a fairly large influx of war refugees from Belgium. Many Jews arrived in the 1930s, as well as communists, socialists and artists from Germany and Austria, who were fleeing the Nazi regime.[78]

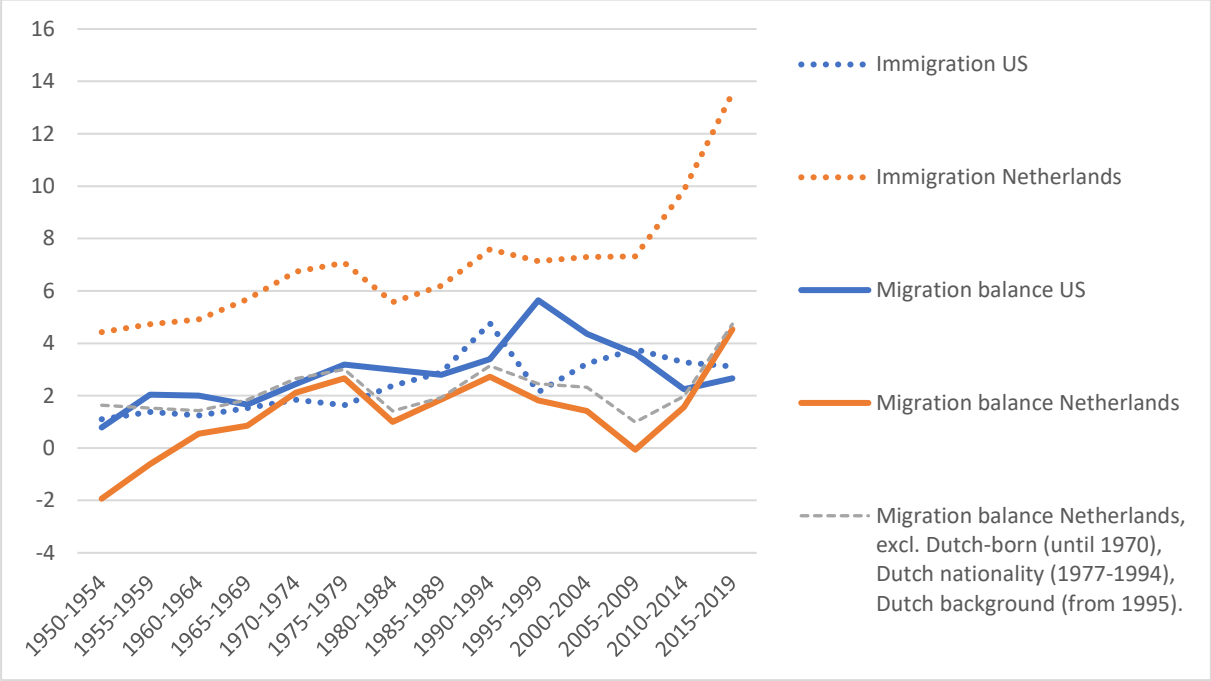


Figure 2.1 Immigration and migration balance per 1000 inhabitants for the Netherlands and the US. Source: Our own calculation based on Statistics Netherlands StatLine, US Census, US Homeland Security, UN Population Division.

From the Second World War onwards, immigration began to grow strongly, initially mainly due to the arrival of several hundred thousand Indo-Dutch citizens at the time of the decolonization of the Dutch East Indies, now Indonesia. From the 1960s onwards, the spontaneous and recruited influx of unskilled and low-skilled guest workers from countries around the Mediterranean Sea boomed. When in the 1970s – influenced by rising unemployment – policy measures were introduced to limit labour migration, family formation and family reunification from countries such as Turkey and Morocco took off. For a long time, immigration from Suriname consisted of elite immigration of relatively modest size,

[77] Boonstra et al. (2007), however, even further back in time, for example during the seventeenth century, there was large-scale immigration, see for example Lucassen, J. M. W. G., & Penninx, R. (1995), pg. 28

[78] This paragraph and the following two paragraphs are, in addition to the sources mentioned, partly based on Boonstra et al. (2007), Lucassen, J. M. W. G., & Penninx, R. (1995), Nicolaas, H. & A. Sprangers (2007) and Van de Beek, J. H. (2010), Chapter 5

but there were a few sharp peaks, around Surinamese independence in 1975 and again around 1980.[79] From the mid-1980s, the influx of asylum seekers increased: in 1985 there were more than 5,000 asylum seekers and in 1990 more than 20,000 for the first time. In 1994, asylum immigration peaked at over 50,000, in large part as a result of the ongoing dismantling of Yugoslavia, the Soviet Union and the Warsaw Pact.[80] Around the year 2000, immigration from the (former) Netherlands Antilles and Aruba was relatively extensive, with up to 10,000 people annually.[81]

In recent decades, immigration has become increasingly important due to the free movement of labour within the EU. From 2007 onwards, due to the lifting of entry restrictions, immigration mainly from Central and Eastern Europe has increased. The arrival of highly skilled knowledge and study immigrants from outside the EU is also a relatively recent and increasing phenomenon. Finally, the number of asylum seekers rose to 43,000 in 2015 as a result of the so-called 'refugee crisis'. Many (43%) are people from Syria, but in 2015-2016 there was also a striking increase in asylum immigration from 'neighbouring countries' such as Iraq and Afghanistan, from Balkan countries on the 'walking route' such as Kosovo and Albania and from 'safe countries' in North Africa such as Algeria and Morocco.[82]

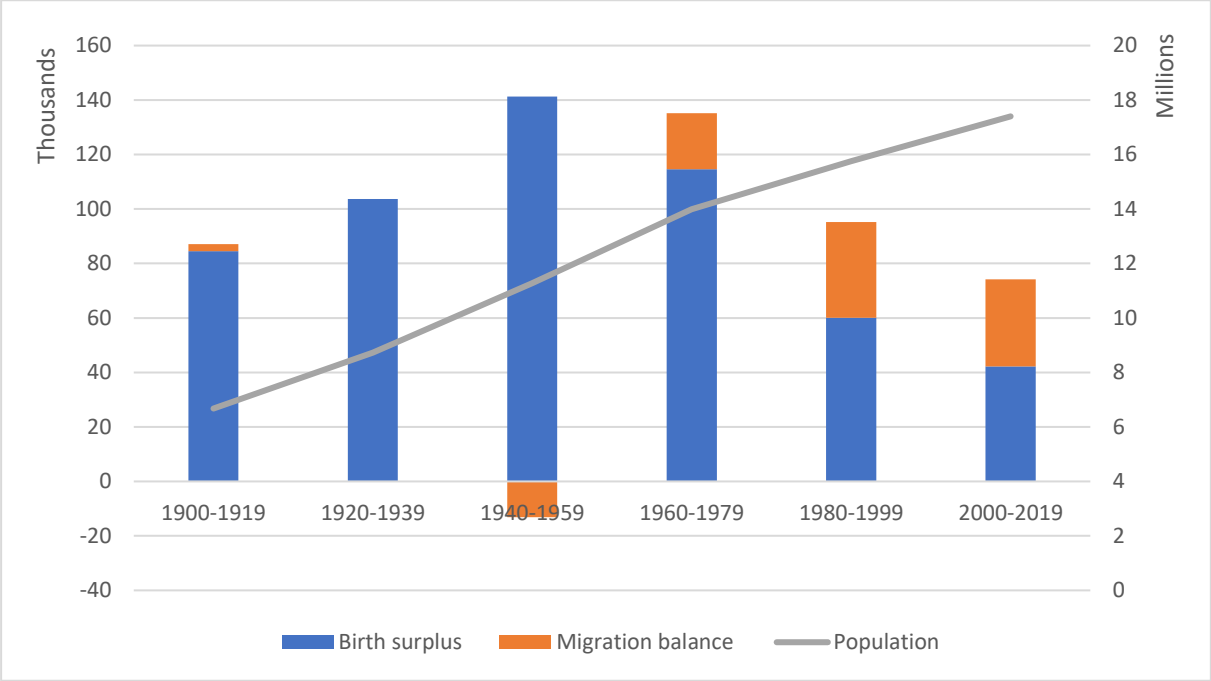


Figure 2.2 Population increase per twenty-year period since 1900 due to surplus births and migration balance (left axis) and total population size (right axis). Columns below the zero line symbolize negative migration balances. Source: Statistics Netherlands StatLine.

Initially, post-war immigration had no major impact on population growth. In contrast to the US, the Netherlands is at the same time also partly an emigration country with regard to the native population.

[79] Nicolaas, H. & A. Sprangers (2007)

[80] Statistics Netherlands StatLine, *Asielverzoeken; nationaliteit, vanaf 1975*, retrieved 13-12-2020 from: https://opendata.cbs.nl/statline/#/CBS/nl/dataset/80059ned/table?dl=47A34

[81] That is, the number of people with a first-generation immigration background from the (former) Netherlands Antilles, Aruba, see Statistics Netherlands StatLine, *Bevolkingsontwikkeling; migratieachtergrond en generatie*, retrieved 13-12-2020 from: https://opendata.cbs.nl/statline/#/CBS/nl/dataset/70751ned/table?dl=47A0C

[82] Statistics Netherlands StatLine, *Asielverzoeken; nationaliteit, vanaf 1975*, retrieved 13-12-2020 from: https://opendata.cbs.nl/statline/#/CBS/nl/dataset/80059ned/table?dl=47A38

In the 1950s and 1960s in particular, several hundreds of thousands of Dutch people left for countries such as Canada, Australia and the US, encouraged by the government, which was concerned about overpopulation. Moreover, after that, more native Dutch people usually left than returned. To make this clear, Figure 2.1 also provides an estimate of the migration balance of only people with an immigration background (the thin grey dotted line).

From the 1970s onwards, immigration has increasingly become the engine of Dutch population growth. This is illustrated in Figure 2.2. In this figure, the grey line indicates the size of the population, which can be read on the right axis. The orange and blue columns indicate the magnitude of the components of population growth, which can be read on the left axis. These growth components are the migration balance (orange in Figure 2.2) and the birth surplus (birth minus mortality, blue in Figure 2.2). Until the 1970s, the birth surplus was responsible for population growth. The migration balance moved around zero or was limited in size and alternately positive and negative. From the 1970s onwards, contraception decreased the birth surplus and the rising migration balance became an increasingly important part of the population growth. In the period 2010-2019 (not shown separately in Figure 2.2), the migration balance (53,000 per year on average) contributed significantly more to population growth than the birth surplus (29,000 per year on average).

Table 2.1 Birth surplus, migration balance and total population growth (absolute and relative) by immigration background, 2010-2019. Source: Statistics Netherlands StatLine.

Background	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2010-2019[2]
Dutch background											
Population growth(%)	0.1	0.1	0.0	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	**0.0**
Population growth	13	7	0	-2	1	-9	-8	-10	-13	-9	**-29**
Birth surplus	19	16	8	5	9	-2	-3	-6	-10	-8	**27**
Migration balance[1]	-5	-8	-7	-6	-7	-6	-5	-3	-2	0	**-51**
Western immigration background											
Population growth(%)	1.8	1.9	1.3	1.3	1.9	1.8	2.0	2.4	2.6	3.1	**2.0**
Population growth	26	29	20	20	30	29	33	40	45	54	**327**
Birth surplus	2	2	1	1	2	1	1	1	1	2	**15**
Migration balance[1]	25	27	19	19	27	28	32	39	44	53	**313**
Non-Western immigration background											
Population growth(%)	2.2	2.0	1.5	1.6	2.1	2.9	3.7	3.2	3.1	3.5	**2.6**
Population growth	41	38	28	31	41	58	77	69	69	80	**534**
Birth surplus	28	27	26	25	25	24	25	24	24	24	**252**
Migration balance[1]	14	11	2	6	15	34	52	45	44	56	**278**

[1]Including administrative corrections.

[2]For the absolute numbers, the sum has been taken for the years 2010-2019. For the percentages – i.e., the 'Population growth (%)' row – the 10th-power root has been taken from the ratio between the population size on 31 December 2019 and 1 January 2010. Note: The population size on 31 December 2019 is not included in this table.

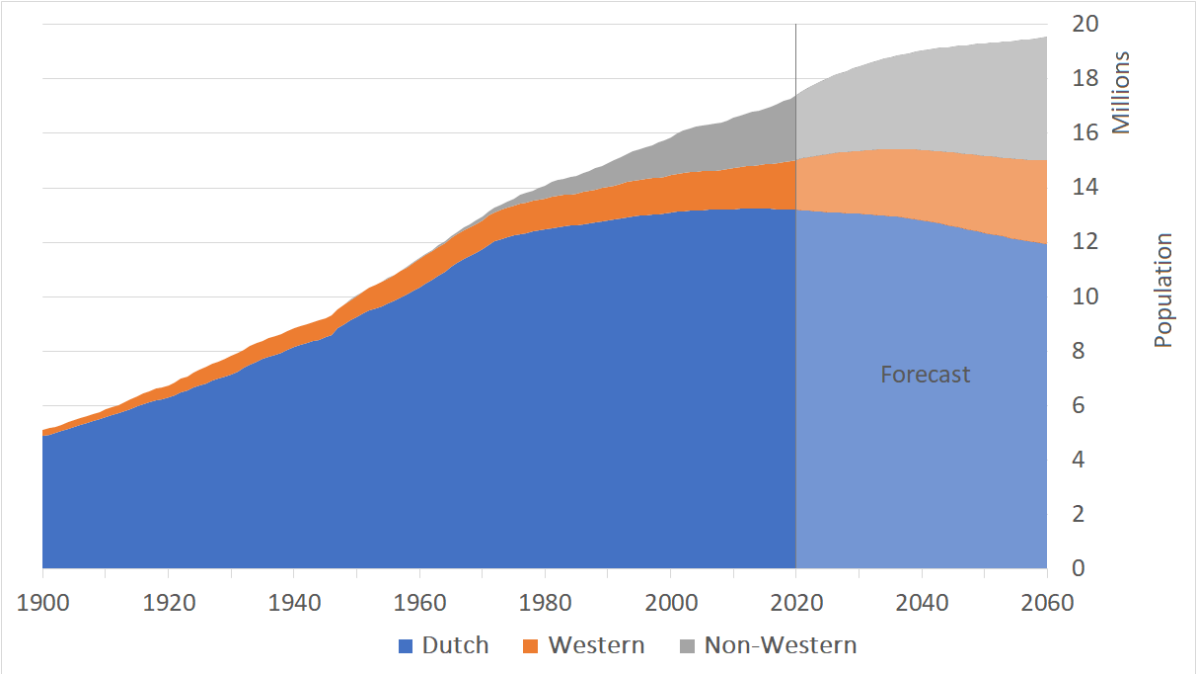


Figure 2.3 Population development in the Netherlands by size and immigration background, observation (1900-2019) and forecast (2020-2060). The composition according to immigration background for the period 1900-1971 has been estimated by interpolation on the basis of the number of people born abroad (first generation) known from census and increase by the estimated number of descendants (second generation), based on the observations from 1972, by assuming the ratio between 1st and 2nd generation for the year 1900 equal to 1 and interpolating the years in between.

Table 2.1 zooms in further on the period 2010-2019. This shows striking differences between the population with and the population without an immigration background. The population with a Western immigration background has grown by an average of 2.0% annually over the past decade, mainly due to immigration and a little due to natural growth (births minus deaths). In absolute numbers, the Western population growth amounted to 327 thousand persons, comparable to the population of the municipality of Utrecht. The population with a non-Western immigration background grew by an average of 2.6%, due to a combination of immigration and a considerable annual birth surplus of approximately 25,000 persons. The non-Western population grew by more than half a million people, which equates to the size of the municipality of The Hague.

Table 2.1 shows an opposite picture for the population with a Dutch background. At the beginning of the period, the native Dutch population showed a modest growth (+0.1%), which turned into a slight contraction halfway through the decade (–0.1%). The cause of this native Dutch contraction[83] is the ageing of the population, or rather, dejuvination[84], the phenomenon that, due to a low number of children, each generation is smaller than the previous one. With the current (2019) number of Dutch

[83] This shrinking process is already underway, but the view on it is somewhat obscured because the population with a Dutch background is declining on the one hand due to children from mixed relationships and on the other hand increasing due to the birth of children with a third-generation immigration background who have a Dutch background according to the CBS definition. See the definitions of Dutch background and immigration background in the Glossary and the Technical Appendix.

[84] Beets, G. C. N. (2008)

children of approximately 1.6 children per woman[85], the population without immigration will halve every 100 years[86] in the long term.

The bottom line is that the population with a Dutch background is shrinking due to a negative migration balance and increasingly also because the mortality surplus is increasing as a result of ageing and dejuvination. The population with an immigration background is growing sharply due to immigration and among non-Western immigrants also due to natural growth. In fact, all population growth in the Netherlands is immigration-related, in a direct sense (due to a positive migration balance of the population with an immigration background) or indirectly (due to a positive birth surplus of the population with an immigration background).

The 'Third Demographic Transition' – the phenomenon that the relative share of the population with an immigrant background is steadily increasing due to a combination of low native fertility and high immigration – means that the implications of immigration on public finances will become increasingly relevant to policy over time. The third demographic transition is fairly common in Western countries with a low number of children and a strong attraction for immigrants. The fairly massive post-war immigration and the drastic decline in the number of children from the 1970s onwards have had a profound effect on the composition and size of the Dutch population. Figure 2.3 shows the broad outlines of the population development, from the beginning of the twentieth century to the present, as well as the Statistics Netherlands forecast up to 2060. The graph clearly illustrates the third demographic transition. Until about 1970, the population with a Dutch background grew quite rapidly due to natural growth, after which the growth levelled off due to birth control and eventually began to decline. The population with an immigration background started to grow extra strongly from about 1970 because, in addition to steady Western immigration, from that moment on, substantial non-Western immigration also occurred. Both simultaneously occurring movements – a shrinking population with a Dutch background and a growing population with an immigration background – reinforce each other and lead to a rapid change in the composition of the population. ↲

The population size has also increased sharply due to immigration. In 1900, the Netherlands had 5.1 million inhabitants, including more than 90,000 foreign-born people,[87] almost 2% of the population. The statistical category 'migration background' did not exist in 1900 and the size of the second generation was not tracked, but roughly 4% of population having an immigration background seems a reasonable estimate for 1900. Currently, the population is 17.4 million people, of which 2.3 million (13%) were born abroad. In total, 4.2 million inhabitants have a first or second-generation immigration background, or 24% of the total population (see Table 2.2).

[85] The average number of children per woman was almost the same in 2019 for the population with a Dutch background (1,573) and the population with an immigration background (1,592), although the differences between Western (1,343) and non-Western (1,766) immigration background are substantial, see Statistics Netherlands StatLine, *Geboorte; vruchtbaarheid, migratieachtergrond en generatie moeder*, retrieved 14-12-2020 from: https://opendata.cbs.nl/statline/#/CBS/nl/dataset/83307NED/table?dl=493D3

[86] This refers to the steady state, the stable development state that the population will approach more and more with the passage of time if the number of children remains 1.6 per woman and the migration balance is permanently equal to zero and also the other variables such as mortality, fertility etc. remain constant. See the Technical Appendix.

[87] In current terminology: persons with a first-generation immigration background.

Continuous immigration has therefore greatly increased the population size. Without immigration, the Netherlands would by the end of 2022 have had an estimated 4.5 million fewer inhabitants, so 13.3 million instead of the current 17.8 million.[88] Immigration will continue to increase the population for decades to come. According to the Statistics Netherlands population forecast 2019-2060 (see Table 2.2), the population in 2060 will be 19.6 million inhabitants. If there were no immigration from now on, the population size would drop to about 16 million inhabitants. The difference attributable to immigration is therefore about 3.6 million inhabitants.[89] A simple rule of thumb is that every 10,000 increase in the average annual migration balance will increase the population by about 0.6 million people in 2060 and 1.2 million people in 2100.

Table 2.2 Population by immigration background in 2020 (observation) and 2060 (Statistics Netherlands forecast). Source Statistics Netherlands StatLine, Population forecast by immigration background (2019-2060).[90]

	Population absolute (millions of people) and relative (%)			
Immigration background	**2020 (observed)**		**2060 (forecasted)**	
Total	17.4	100%	19.6	100%
Dutch background	13.2	76%	11.9	61%
With immigration background	4.2	24%	7.6	39%
1st generation	2.3	13%	4.2	21%
2nd generation	2.0	11%	3.5	18%
Western	1.8	11%	3.1	16%
Western 1st generation	0.9	5%	1.8	9%
Western 2nd generation	0.9	5%	1.3	7%
Non-Western	2.4	14%	4.5	23%
Non-Western 1st generation	1.3	8%	2.3	12%
Non-Western 2nd generation	1.1	6%	2.1	11%

With continued immigration, ethnic diversity will also continue to increase, all the more because the population with a Dutch background is shrinking, due to ageing and dejuvination.[91] According to the Statistics Netherlands forecast (see Table 2.2), 7.6 million people will have an immigration background in 2060, which amounts to 39% of the total population. The proportion of Western immigrants will rise from 11% to 16% in the next 40 years. For non-Western immigrants the increase is even more pronounced: from 14% to 23% of the total population.

Another way to consider the future ethnic composition is to look at the immigration background of 0-year-olds. Figure 2.4 shows this structure for the population of 2016, the reference year of the current study.[92] The youth is the future, it turns out, because the distribution over the Dutch, Western and non-Western background is the same as that in the Statistics Netherlands population forecast for

[88] See the Technical Appendix.
[89] See the Technical Appendix.
[90] Statistics Netherlands, *Prognose bevolking naar migratieachtergrond (2019-2060)*, retrieved 15-12-2020 from: https://www.cbs.nl/nl-nl/achtergrond/2019/51/prognose-bevolking-naar-migratieachtergrond--2019-2060--
[91] Change in the share with a Dutch background is also partly a matter of definition, see footnote 83.
[92] Included are the zero-year-old residents on 1 January 2016 and all zero-year-old immigrants who immigrated during 2016, see Technical Appendix.

2060.[93] The figure also illustrates that the second-generation non-Western is twice as large as the second-generation Western, which can partly be traced back to the size and age composition of both groups and partly to differences in fertility.[94]

Another striking difference is that with a Western immigration background, the third generation almost always has one parent with a Dutch background. The group "Western, 3rd generation, both parents 2nd generation" is hardly visible in the figure because of its small size. Those with a third-generation Western background have, as it were, been absorbed into the population. In the third generation of immigrants with a non-Western background, both groups are about the same size, which indicates that those with a second-generation non-Western immigration background are less likely to have a partner with Dutch background than those with a second-generation Western immigration background.[95]

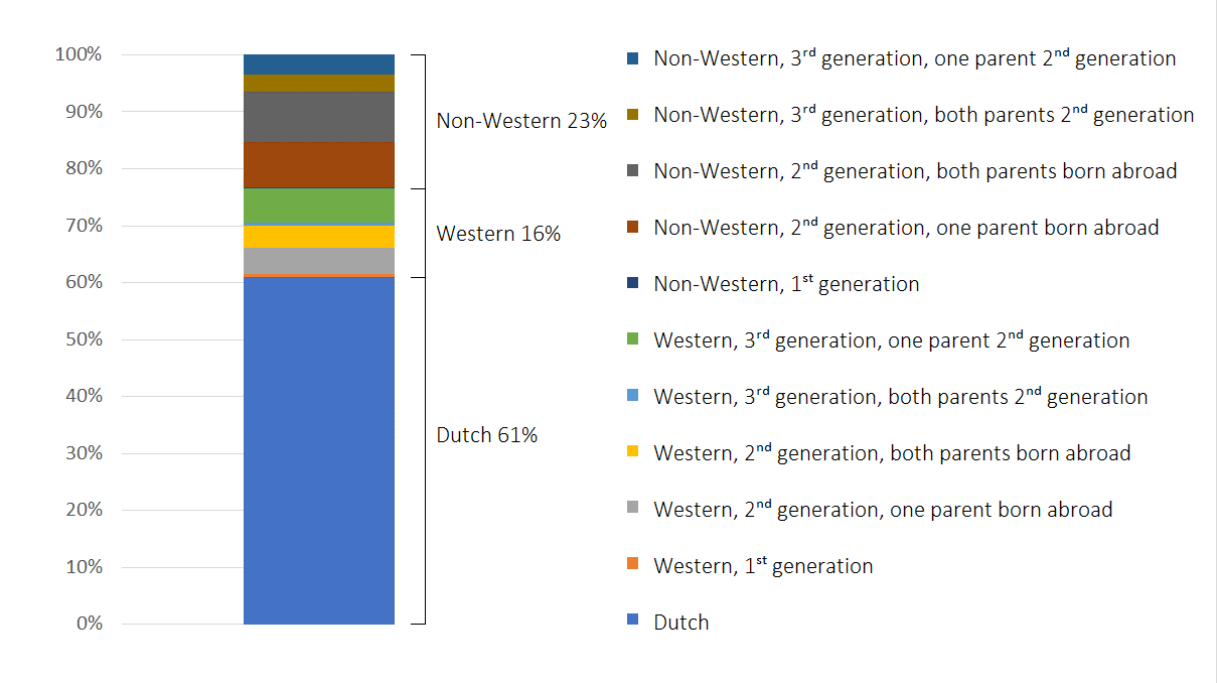


Figure 2.4 Relative share by immigration background of 0-year-olds. Shown are 0-year-olds with a first-generation immigration background who immigrated during 2016[96] and 0-year-olds with a Dutch, second or third-generation (immigration) background who were registered in the GBA on 1 January 2016. Source: own calculation based on Statistics Netherlands StatLine and Statistics Netherlands microdata.

Until now, the discussion of the ethnic composition has been limited to the fairly rough division of Dutch, Western and non-Western backgrounds. An important reason for this is that detailed data on ethnic background have only been kept by Statistics Netherlands from 1995 onwards. Until the late 1980s, the collection of 'ethnic data' was considered taboo and there was a legal ban on 'registration by race'. The rather alarming WRR report *Allochtonenbeleid* (Immigration Policy) from 1989 made it

[93] NB: this calculation was first performed and presented in January 2018, before the publication of this Statistics Netherlands forecast.
[94] See for fertility differences Statistics Netherlands StatLine, *Geboorte; vruchtbaarheid, migratieachtergrond en generatie moeder*, retrieved 14-12-2020 from: https://opendata.cbs.nl/statline/#/CBS/nl/dataset/83307NED/table?dl=4BD29
[95] See also Chapter 9.
[96] See the Technical Appendix.

clear that a lack of even the most basic statistical data seriously hindered the implementation and monitoring of integration policy. The government recognized this problem and, with the Sensitive Data Decree (1993) and the Statistics Netherlands Act (1996), provided a legal framework for collecting data related to ethnicity.[97]

The increased availability of data since 1995 makes it possible to provide a detailed picture of the composition and development of immigrant populations (see Figure 2.5). The graph shows that groups with a Western immigration background are shrinking (Indonesia) or more or less stable, with the exception of Central and Eastern Europe (CEE countries), where there is rapid growth. In the groups with a non-Western immigration background, the growth is mainly due to an increase in immigration from Asia and to a lesser extent Africa and Latin America. Recently there was a significant increase in asylum immigration from Africa and the Middle East, including Afghanistan. The 'classic' regions of origin Turkey, Morocco, Suriname and the (former) Netherlands Antilles and Aruba show more moderate growth.

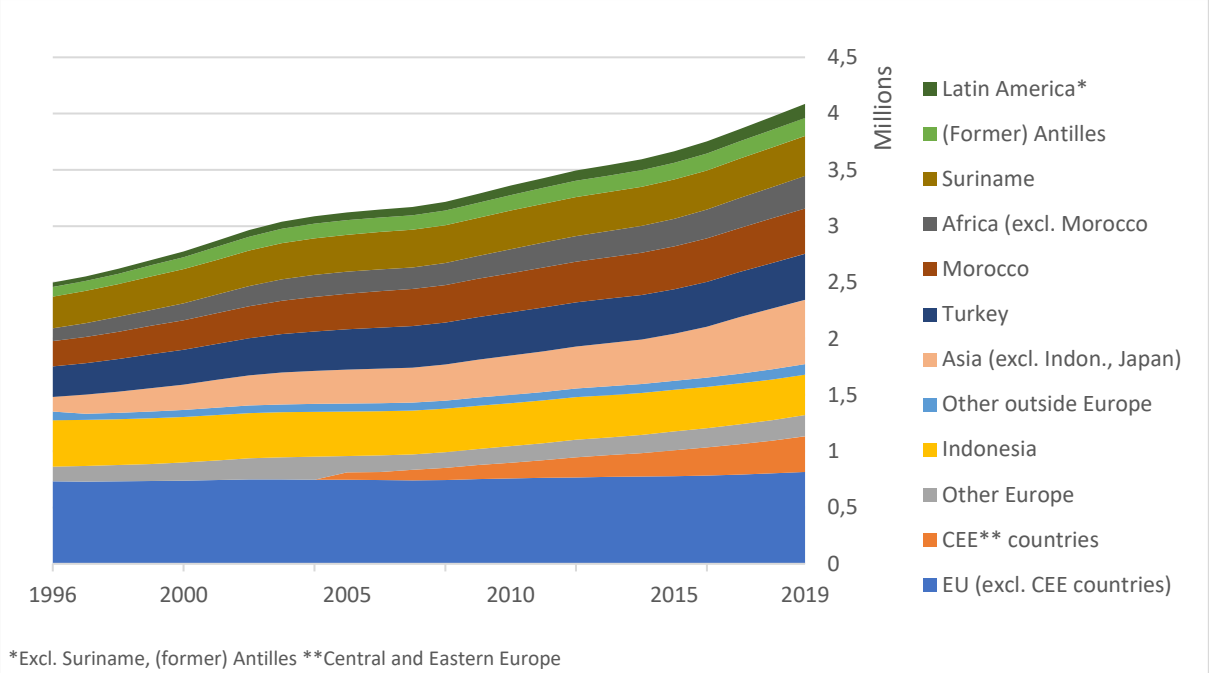


Figure 2.5 Population as of 1 January by immigration background[98], 1996-2019. Source: Statistics Netherlands StatLine.

A few comments are in order. The figures show residents registered in the population administration and not illegal immigrants, foreign nationals who do not have a valid residence permit and who are in the Netherlands without permission. Their number has been estimated at 20,000 to 63,000.[99] In addition, descendants of second-generation immigrants – the third generation – are counted as Dutch with Dutch background. In most publicly accessible statistics on Statistics Netherlands StatLine, the third

[97] Van de Beek, J. H. (2010)
[98] Region of origin according to the 12-part division, see the Glossary, with the EU broken down by CEE countries and other.
[99] Van der Heijden et al., 2015

generation is not distinguished separately. However, a number of datasets are available on the size according to age and immigration background.[100]

With a view to calculating the fiscal costs and benefits according to immigration motive, a brief description of the development of immigration regarding (inferred) immigration motive follows. This begins with the immigration for residents of the European Union and EFTA (Switzerland, Norway, Iceland and Liechtenstein). These immigrants are allowed to travel freely to the Netherlands and work or study there. Figure 2.6 provides an overview of immigration from these countries, broken down into Central and Eastern European countries (CEE countries) and the other EU/EFTA countries (excluding the Netherlands). It can be seen that the total annual immigration has increased fivefold in 20 years, from over 20,000 to over 110,000 immigrants per year. Study immigration in particular and, to a lesser extent, labour immigration have grown strongly in size. This is largely due to immigration from Central and Eastern Europe, which increased sharply after existing restrictions for most CEE countries were lifted in 2007. In 2018, these countries accounted for about half of the immigration from EU/EFTA countries.

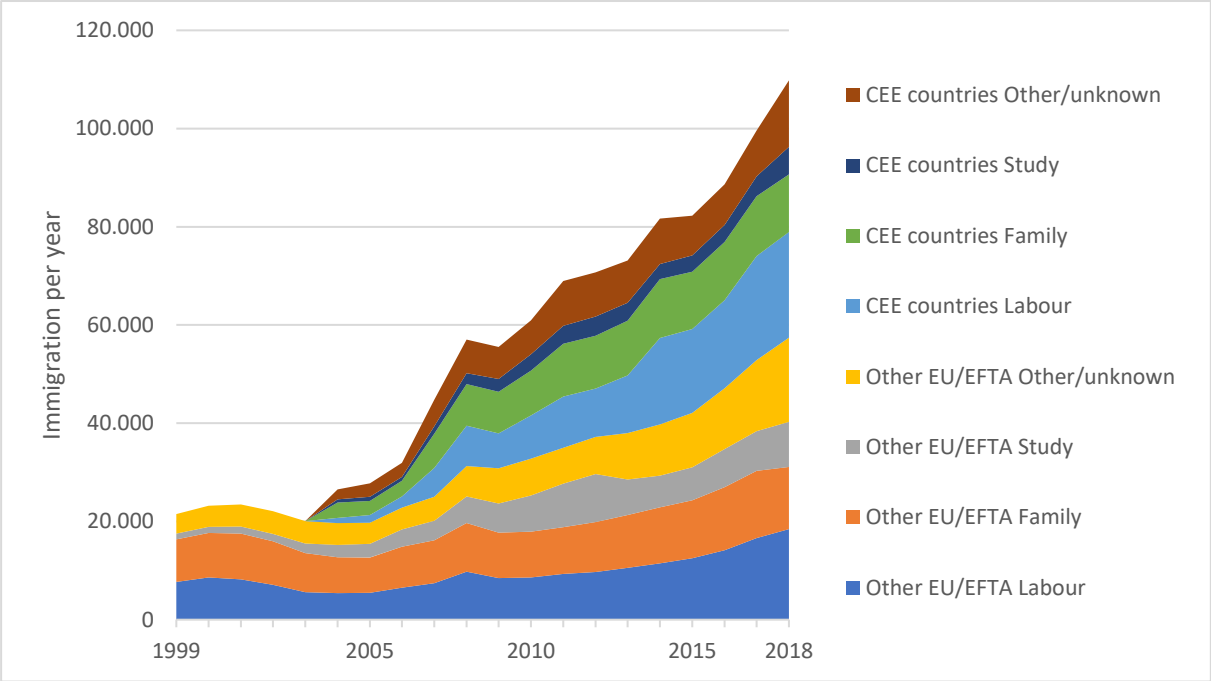


Figure 2.6 Immigration by nationality and inferred immigration motive for CEE countries and other EU/EFTA countries (excluding the Netherlands). Source: Statistics Netherlands StatLine.[101]

Figure 2.7 shows the influx of immigrants from outside the EU/EFTA, broken down by inferred immigration motive. Here too, study and labour immigration has increased sharply, with a large part of the increase being attributable to Asian study and labour immigrants. Family immigration shows a striking decrease at the beginning of the century, which is partly due to the tightening of admission requirements, in particular the introduction of the *Wet inburgering in het buitenland* (Civic Integration Abroad Act) (see §2.3). Initially, asylum immigration often has an unknown origin, due to the loss or

[100] See the Technical Appendix.
[101] Statistics Netherlands StatLine, *Immigranten EU/EFTA; afgeleid migratiedoel, sociaaleconomische categorie*, retrieved 15-12-2020 from: https://opendata.cbs.nl/statline/#/CBS/nl/dataset/84808NED/table?dl=46E0E

misappropriation of identity documents. At the end of the period, the origin of most asylum seekers is known and it has been established that they mainly come from Africa and the Middle East.[102]

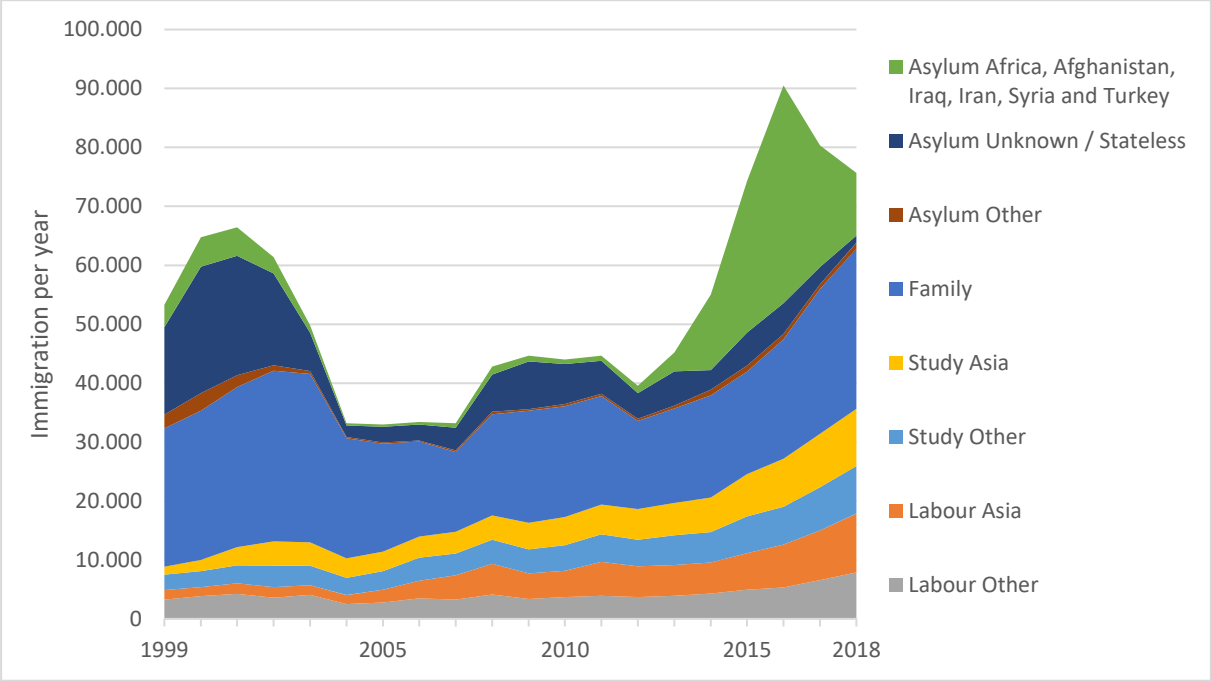


Figure 2.7 Immigration by inferred immigration motive for non-EU/EFTA countries. Source: Statistics Netherlands StatLine.

Finally, some observations with regard to remigration. The probability of remigration determines the average length of stay of immigrants. That is why this probability of great importance in determining the costs and benefits over the entire duration of the stay. There are major differences between origin groups and immigration motives when it comes to probability of remigration.

Figure 2.8 shows the probability of residence by immigration motive and region of origin. After 15 years of residence (Figure 2.8 left), a quarter of immigrants from the EU or EFTA are still present in the Netherlands. This is about half for immigrants from outside the EU/EFTA area. The difference according to immigration motive is even greater: for asylum and family immigrants, after 15 years of residence, 55% to 60% are still in the Netherlands and for work, study and other motives it is around 20% (Figure 2.8 right).

Self-selection with regard to benefit dependence is also important for a cost-benefit analysis of immigration. The costs and benefits of immigration are strongly linked to income redistribution by the welfare state and the progressive tax system. As will be explained in §2.4, the so-called welfare magnet hypothesis exists in the economic literature. According to this hypothesis, generous welfare state provisions attract (low-skilled) immigrants. The analysis in the current report is limited to immigrants who are already in the Netherlands. No empirical research is therefore being conducted into the effect of social security on the choice immigrants make to come to the Netherlands as their country of destination.

[102] The data does not allow further breakdown, which is why the five countries Turkey, Syria, Iraq, Iran and Afghanistan have been taken as an approximation for the Middle East.

The reverse – analysing whether benefit dependency influences remigration – is however possible for immigrants present in the Netherlands. In Figure 2.9, for a large number of cohorts, the percentage of immigrants who left after 10 years of residence is offset against the number of immigrants who received benefits after two years of residence. The grey trend line is clearly decreasing.

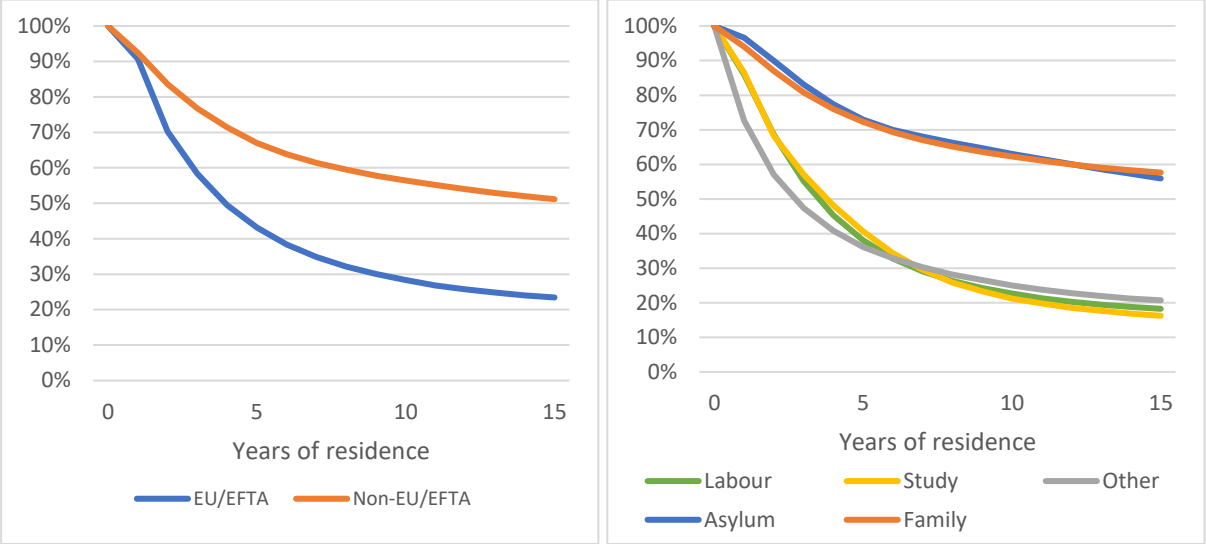


Figure 2.8 Cumulative probability of residence by length of stay in years for immigrants who came to the Netherlands in the period 1999-2004, by region of origin (left) and migration motive (right). Our own calculation based on CBS StatLine.[103] [104]

In cohorts[105] of which few immigrants receive benefits after two years, the tendency to leave the Netherlands again within 10 years is significant. Of cohorts with less than 5% benefit recipients, 30% to 90% of the immigrants usually left within 10 years. Two subgroups can be distinguished within this group. Of immigrants from Japan, South Korea, India, South Africa, Australia, Canada and the US, 60% to 90% left the Netherlands within 10 years (green dots in Figure 2.9 above). Among immigrants from Russia, Ukraine, China, Brazil, Indonesia and the Philippines (blue dots in Figure 2.9 above), the probability of departure is much smaller at 30 to 60%.

The reverse also applies to the cohorts shown here: the higher the benefit dependency after two years, the less immigrants are inclined to leave the Netherlands within 10 years. For immigrants from the classic countries of origin Turkey, Morocco and Suriname (grey dots in Figure 2.9 above), the probability of receiving benefits after two years of residence is considerably higher by 5% to 12% and the probability of departure is correspondingly smaller by 15% to 40%. This applies even more to countries where many asylum seekers come from. More than half of the immigrants from Afghanistan, Iraq and Syria (orange dots in Figure 2.9 above) came as asylum seekers. Up to 10 to 50% of them were on benefits after two years and 70 to 90% were still in the Netherlands after 10 years. For Iran and Eritrea

[103] Statistics Netherlands StatLine *Immigranten niet EU/EFTA; migratiemotief, sociaaleconomische categorie*, retrieved 3-1-2020 from: https://opendata.cbs.nl/#/CBS/nl/dataset/84809NED/table?dl=48B50

[104] Statistics Netherlands StatLine *Immigranten EU/EFTA; afgeleid migratiedoel, sociaaleconomische categorie*, retrieved 3-1-2020 from: https://opendata.cbs.nl/#/CBS/nl/dataset/84808NED/table?dl=48B55

[105] A cohort is here a combination of immigration year and nationality. The nationalities Somali and Eritrean have been clustered and, in addition, two consecutive years have been added together for the nationality Syrian (from 2002) and the cluster Somali/Eritrean (from 2004) in order to avoid bias by small groups. Small groups cause bias because the values in these Statistics Netherlands StatLine tables are rounded to multiples of 5.

(together with Somalia, the yellow dots in Figure 2.9 above), more than a quarter were asylum seekers and the dependency on benefits is lower and the probability of departure is greater. Somalis are a big exception: an average of 60% were asylum immigrants, but there is also a lot of emigration to, among other places, the United Kingdom.

Figure 2.9 Above: The percentage of a particular cohort that remigrated within 10 years of residence, compared to the percentage of the relevant cohort that received benefits as the main source of income after two years of residence, for 224 cohorts that immigrated during the period 1999-2009, by nationality for 21 non-EU/EFTA countries. Below: The percentage of a particular cohort that remigrated within 10 years of residence, compared to the percentage of the relevant cohort that received benefits as the main source of income after 10 years of residence, for a breakdown of the world into 42 countries and regions, cohorts 1999-2009. The classification into World Value Survey (WVS) clusters is for the purpose of an analysis in §9.13. The lines are trend lines (regression lines, logarithmic). Source: Our own calculation based on Statistics Netherlands StatLine. [106]

[106] Computation based on Statistics Netherlands StatLine data (above and below) *Immigranten niet EU/EFTA; migratiemotief, sociaaleconomische categorie,* (below) *Immigranten EU/EFTA; afgeleid migratiedoel,*

Figure 2.9 (below) shows a similar analysis for a division of the world into 42 countries[107] and regions.[108] The average probability of an immigrant leaving the Netherlands after 10 years is compared to the average probability of an immigrant receiving benefits after 10 years. Furthermore, the EU/EFTA countries were added in this analysis (yellow dots in Figure 2.9 below). Despite a freer migration regime, these countries also show a similar correlation between remigration probability and benefit dependency.

It is abundantly clear that benefit dependency is associated with lower probability of remigration, although the causal mechanisms require further research. If immigrants on benefits remigrate less often than people without benefits, negative self-selection occurs with regard to benefit dependence, which entails costs for the treasury. It appears that this is a kind of reverse 'welfare magnet effect'. To stay in the metaphor: we cannot comment on the extent to which the 'welfare magnet' attracts immigrants from great distances to the Netherlands will be left open, but it is certain that the welfare magnet is strong enough to keep benefit-dependent immigrants in the Dutch welfare state relatively often.

Self-selection based on benefit dependency for remigration can further increase the pressure that low-skilled immigration already puts on the welfare state. The Netherlands is de facto an immigration country with a dynamic immigration pattern: a lot of immigration, but also a lot of remigration. Many people 'flow', as it were, 'through the Netherlands'. It would seem that benefit-dependent immigrants in particular relatively often settle in the Netherlands for a long time or permanently. Contrary to the numerical proportions, social assistance already consists of approximately 10% Western and 50% non-Western immigrants.[109] The self-selection mechanism observed here can perpetuate or increase this excessive benefit dependence among immigrants, further increasing the pressure of immigration on the welfare state.

2.3 Salient developments in policy

The legal regulation of immigration has three parts: national legislation for admission of aliens, national legislation for admission to the labour market and international legislation.[110]

Until 1965, the admission of aliens was based on the *Vreemdelingenwe*t (Aliens Act) of 1849. The law had only 21 articles and was astonishingly simple: aliens with sufficient means of subsistence, property or work, are admitted if they had a passport, were known to two residents or even if they reported to the police.[111] The *Vreemdelingenwe*t of 1965 has 52 articles, but essentially sets the same conditions: sufficient means of support, and no risk to public order or national security. If the conditions were met, a permanent residence permit would be issued after five years. The *Vreemdelingenwe*t of 2000 regulates admission in 124 articles. Sufficient means of subsistence as well as not being a risk to public order or national security are still regarded as conditions. Now however a residence permit is only

sociaaleconomische categorie. Retrieved 3-1-2020 from: https://opendata.cbs.nl/#/CBS/nl/dataset/84809NED/table?dl=4A135 respectively https://opendata.cbs.nl/#/CBS/nl/dataset/84808NED/table?dl=51109

[107] To avoid very small numbers, Latvia and Lithuania have been combined into one category.

[108] In order to maximise the number of observations the categories Other America, Other Africa, Other Asia, Other Oceania and Other EU have been included in the analysis.

[109] Our own calculation based on Statistics Netherlands StatLine, *Personen met bijstand; persoonskenmerken*, retrieved 12-2-2021 from: https://opendata.cbs.nl/statline/#/CBS/nl/dataset/82016NED/table?dl=4D617

[110] The information in this paragraph is taken from Lange, T. D. (2007)

[111] As the law states: "Aliens can even be admitted by mere indication of their persons, specifying who they are, from where and for what purpose they come here."

granted if international obligations require it, if admission serves an essential Dutch interest, or on humanitarian grounds. A residence permit will be refused or not renewed if the applicant does not comply with the conditions of the law regarding the employment of aliens.

In addition, from 2000 onwards, the admission policy with regard to family immigration has become mixed with integration policy. There are (stricter) requirements for the minimum age of the partners and the minimum income of the family initiator.[112] In 2006, with the entry into force of the *Wet inburgering in het buitenland* (Civic Integration Abroad Act), an additional requirement was added that the partner arriving from outside the Netherlands must successfully pass a civic integration examination that must be paid for himself. These measures led to a significant reduction in family immigration from, for example, Turkey and Morocco.[113]

The first national regulation on admission to the labour market was just as brief. In the 12 articles of the *Wet Regeling Arbeid Vreemdelingen* (Foreigners' Employment Regulation Act) of 1934, the national government was given the option to oblige employers to apply for a work permit for foreign employees in specified professions or branches of industry.[114]

In 1969 the law was replaced by the *Wet Arbeidsvergunning Vreemdelingen* (Work Permit Act) of 1964. Now, by order of the EEC, it became the employee instead of the employer who had to apply for a work permit. The permit was refused if the employee did not have a valid residence permit and if the situation on the labour market gave cause to do so; the criteria however were not specified.

In the *Wet Arbeid Buitenlandse Werknemers* (Foreign Workers Act) of 1979, the permit requirement is again imposed on employers. A maximum is now imposed on the number of foreign employees per employer. The permit can be refused if the employee does not have a residence permit, if sufficient supply is available in the Netherlands or in the 'recruitment countries' (countries with which the Netherlands has a treaty for 'guest workers') and if there is insufficient suitable housing available. The requirement of insufficient labour supply did not apply to spouses and immature children. A work permit was not required for foreign nationals with a permanent residence permit, for certain professions, for foreign nationals who had worked lawfully in the Netherlands for at least five years or for their family members. International obligations also led to exemptions, such as for EEC nationals.

Since 1995, the *Wet Arbeid Vreemdelingen* (Aliens Employment Act) of 1994 has applied, which is essentially the same as the 1979 Act. The maximum number of foreign nationals per employer was eliminated, the permit is granted for a maximum of one year and can be refused if the employer offers poor working conditions. It may also be demanded that the employer make an effort to train personnel itself in the event of a lack of supply. Regulation of highly skilled immigration, as an exemption from applicable restrictions, has always remained in the lee of public discussions. The criterion was usually the salary (in 1969 the income limit for the health insurance fund in which half of the population was compulsorily insured, in 1973 a limit of 75% above the median labour wages in industry, in 2003 it was €50,000), with some additional conditions. The schemes included senior staff of multinationals and academics, later also ICT workers. In 2005, the *Regeling Kennis Migranten* (Knowledge Immigrants

[112] See Wilkinson, C., Goedvolk, M., & Dieten, S. V. (2008), Figure 3.7, pg. 52
[113] See Wilkinson, C., Goedvolk, M., & Dieten, S. V. (2008), Figure 3.7, pg. 57
[114] In 1937 the scheme was extended to self-employed people, because many foreigners offered themselves as self-employed.

Scheme) was introduced, with salary as the sole criterion (€45,000 per year, €32,600 for employees under the age of 30).

International regulation started modestly in 1951, when the six countries of the European Coal and Steel Community agreed that qualified workers could move freely across the six labour markets. In 1953, the OESO/OECD determined that in the event of a lack of national supply, immigrants had to be admitted and that a work permit had to be renewed after five years regardless of the situation on the labour market. The Treaty of Rome, which launched the EEC in 1958, promised unfettered labour mobility in 1970. This was achieved step by step, and due to the expansion of the EEC into the EU, this now applies to the 28 countries of the EU and the EFTA countries, to employees, self-employed persons and their family members.[115]

The UN Refugee Convention of 1951 has been in force in the Netherlands since 1954. The Refugee Convention stipulates that refugees cannot be returned to the area where their lives or freedom are threatened on the basis of race, religion, nationality, political opinion or belonging to a particular social group. This is known as the non-refoulement principle, which is a prohibition against the deportation of persons who fear persecution. Incidentally, this principle does not imply an obligation to admit persons who are not yet in the territory. Refugees should not be discriminated against in their rights in comparison to residents or other immigrants. The convention does not give the right to freedom of establishment in a country, only access to the legal system. The convention does prescribe free access to the labour market after three years of legal residence.

The effect of this treaty was initially limited to refugee flows resulting from the Second World War. This implied not only a limitation in time, but also a de facto limitation to refugees coming from Europe. These restrictions were released in 1967 with the adoption of a supplement to the original treaty known as the 'New York Protocol'. This created an open-ended scheme that in principle gives all the earth's inhabitants the right to an asylum procedure in the Netherlands and in practice has led to the settlement of large groups of asylum seekers.

If we consider the main outlines of the developments, we see that from 1849 to 2000 the national legislation on the admission of aliens was very liberal: sufficient means of existence, no threat to public order (no beggars, no rioters). In 2000 the standard changes: foreign nationals must serve an essential Dutch interest.

In the early years of the arrival of immigrant workers, parliamentary influence was limited and important decisions were made by executive officials, particularly Social Affairs officials.[116] Juridification came later, for labour immigration, family immigration and asylum immigration. For example, it was a judge who ruled in 1973 that the residence permit of an immigrant who was entitled to unemployment benefits could not be withdrawn. As De Lange concluded about the period 1976-1990: "Funded and specialized legal aid and judges who critically monitored the actions of the administration also jointly formed a new power factor".[117] International regulation and juridification, partly on the basis of this

[115] For the EU and the EFTA countries minus Switzerland, this is arranged via the EEA (see Glossary), for Switzerland via Schengen.
[116] Lange, T. D. (2007)
[117] Lange, T. D. (2007), pg. 237

regulation (at the Court of Justice of the EU and the European Court of Human Rights), have severely restricted national policy space.

2.4 The economic significance of immigration: a literature review

Immigration has potential economic effects through its influence on the size and composition of the population, in particular the labour force. This section makes use of the literature to examine the income effects of immigration and the effects – including income effects – of increasing population density. In addition, the so-called 'welfare magnet hypothesis', the assumption that a welfare state attracts (low-skilled) immigrants, is discussed. All of these effects can directly or indirectly affect the fiscal effects of immigration, which are the main topic of the current report. The scientific literature on fiscal effects itself is discussed in Chapter 3.

If we limit ourselves to measured incomes, we can distinguish between the *scale effects* and *ratio effects* of immigration. Scale effects occur as the size of the economy increases due to immigration and the resulting population growth. Ratio effects arise when immigration changes the relationships between production factors (such as labour and capital) or between labour market segments (such as the low and high skilled). Those ratio effects can in turn lead to redistribution effects, i.e., redistribution of income by changing the relative scarcity of the relevant factors of production or labour market segments. For example, landowners or capital owners may benefit from immigration and low-skilled workers may be disadvantaged if there is a lot of low-skilled immigration.

There is a purely scale effect if immigrants have the same characteristics as residents and if production factors other than labour (such as capital) can be kept constant per worker. This occurs when the population grows through immigration, but the quality of the workforce does not change, because the immigrants do not differ from residents in terms of education, creativity, entrepreneurship and the like, and immigrants are equipped with the same amount of capital, such as machines and buildings, as residents. The economy is then inflated proportionally, as it were, because all production factors increase in equal measure. By default, it is assumed that at the level of the national economy there are no significant economies of scale or diseconomies of scale: an increase in the population while maintaining the equipment of the workers (with capital, etc.) has no effect on the income per capita. Countries with a larger population do not have a higher per capita income than countries with a smaller population. In economist jargon: there are constant returns to scale.

If the population increases through immigration and the total amount of capital remains constant, the amount of capital per worker decreases: 'capital dilution' occurs. This is a ratio effect that will affect relative rewards. Relatively more abundant labour will become cheaper, relatively scarcer capital will yield more. Model calculations[118] with realistic parameter values around the year 2000 estimate that immigration for the Netherlands results in a loss for labour of 2.99% of the national income and a profit for capital of 3.14% of the national income. The net benefit of immigration – also referred to as the 'migration surplus' – thus amounts to 0.15%[119] of the national income.[120] This clearly shows that redistribution through immigration is quantitatively much more important than the net benefit. The degree of redistribution and the size of the immigration surplus depend on the flexibility in the economy, in particular on the wage sensitivity of the demand for labour. With great sensitivity, a slight fall in wages

[118] Based on a stylized model of Borjas (1995)
[119] 3.14% – 2.99%.
[120] WRR (2001), pg. 99, similar calculations for the US show similar results.

already leads to a large increase in the demand for labour. In that case, extra supply of labour as a result of immigration can easily be absorbed by the labour market, without the wages changing significantly. Then there is little redistribution and a small immigration surplus. The reverse applies to a demand for labour that is not very sensitive to wages. Empirical research shows large differences in estimates of that sensitivity.[121]

Capital per worker can remain constant if it can be borrowed indefinitely on an open international capital market at a given interest rate. This is in fact the current Dutch situation. Capital per worker can also remain constant because immigrants bring their own capital, as was the case in the 16th and 17th century for the Southern Netherlands and Huguenots. If capital is to be raised from domestic savings, a larger workforce means that more capital is needed to keep the amount of capital per worker constant. Then the income per capita falls. This was the fear that led to an active emigration policy in the 1950s. Brunow, Nijkamp and Poot[122] calculate that capital dilution due to immigration in the OECD countries in 2000-2010 would lead to an annual reduction in income of 0.14% per year, with an actual average growth of 1.2% per year.[123]

If immigrants do not have the same qualities as residents, a different ratio effect occurs. The relationships between different categories of labour change, which leads to redistribution: substitutes lose, complements gain. Substitutes are immigrants who compete with residents: the arrival of foreign unskilled people, for example, puts pressure on the wages of resident unskilled people. The reverse is true for resident workers who are complementary to immigrants: the arrival of unskilled immigrants, so to speak, increases the demand for trainers, supervisors and accountants.

Research into the effects of immigration on wages yields quite varied results. An overview of such studies concludes that with an increase in the fraction of immigrants in a local labour market by 10 percentage points (i.e., from 5% to 15%), the wages of residents will be more than 1% lower.[124] But not all controversies in this field have been settled. There is hardly any systematic research into the difference in effects on substitutes and complements.

In practice, both ratio effects – capital dilution and redistribution between the low and the highly skilled – can occur simultaneously. A higher level of education of immigrants can counteract the effect of capital dilution (less physical capital per worker). This is illustrated by two studies of the effect of immigration in OECD countries, in successive periods in which immigration changed in character, from low to highly educated. Dolado, Goria and Ichino[125] analysed data for 23 OECD countries in the period 1960-1985. In that period, immigrants in each country had on average less human capital[126] (education, etc.) than residents. An increase in the migration balance of 1 immigrant per 1000 inhabitants, under these circumstances, reduced the growth of income per capita by 0.04 percentage point.[127]

[121] Longhi, S., P. Nijkamp & J. Poot (2004)
[122] Brunow, S., P. Nijkamp & J. Poot (2015)
[123] Brunow, S., P. Nijkamp & J. Poot (2015)
[124] Longhi, S., P. Nijkamp & J. Poot (2004)
[125] Dolado, J., A. Goria & A. Ichino (1994)
[126] Human capital is the store of knowledge, competences, skills and talents – such as creativity – that embody the ability to perform productive labour.
[127] Population growth due to immigration had a greater negative effect on income growth than native population growth, but the difference between the two effects is halved by the human capital that the immigrants bring with them.

Boubtane, Dumont and Rault[128] estimate a similar model for 22 OECD countries in the years 1986-2006. In this period, recent immigrants in almost all countries have a higher share of highly educated[129] than residents[130]. Now the positive effect of imported human capital dominates the negative effect of capital dilution. An increase in migration balance of 50% leads on average to an increase in annual productivity growth of 0.3 percentage point. In a third study, Ortega and Peri[131] estimated the effect of immigration in 14 OECD countries in 1980-2005. They find higher employment and higher gross national product, but unchanged wages, capital intensity and national product per hour worked. These results are fully in line with constant returns to scale (absence of economies of scale or diseconomies of scale).

In the CPB report *Immigration and the Dutch Economy* (2003)[132] – on which the current report builds with regard to the fiscal effects – the ratio and redistribution effects discussed above are both discussed. Based on model calculations[133], the CPB concludes that the immigration surplus is only a fraction of the redistribution. With a constant amount of capital, the effect of a 5% increase in the labour force due to immigration is 7 to 11% higher income for capital owners and – depending on the proportion of low and high-skilled immigrants – 2 to 10% lower income for resident workers. If capital is mobile, there is only redistribution between the low and the high-skilled: if the immigration of the low-skilled workers increases by 5%, the income of the high-skilled will rise by 2% and the income of the low skilled will fall by 6%. If only the highly skilled come, the highly skilled lose 1% and the low skilled gain 3%. The immigration surplus is in all cases only hundredths of a percentage.[134] The calculations discussed above are based on a stylized model, with a fixed labour supply of residents and without a minimum wage or social safety net. In extensions of this model with minimum wages, social security and an imperfect labour market, where the supply of low- and high-skilled labour responds differently to the influx of immigrants, immigration leads not only to income effects, but also to unemployment and benefit dependence.[135] In general, social security reduces the absorption capacity of the labour market for low- and unskilled immigrants and certainly for immigrants with a lower productivity than the minimum wage, benefit dependence is a real risk.

Income equality, minimum wages and social security are associated with self-selection of immigrants regarding human capital, in particular, the level of education. Something similar may occur with remigration with regard to benefit dependency (see §2.2). Such self-selection potentially affects the contribution of immigrants to government revenues and expenditures. These so-called net fiscal contributions form the core of this report. For this, the flows of immigrants who have come to the Netherlands in a particular year are accepted as given. We do not provide an analysis of the selection of immigrants who chose the Netherlands, but some results from the literature can be pointed out here.

In the United States, a literature has developed on the attraction effect of generous social services: the hypothesis of the welfare magnet. In Europe, which has a different and very varied institutional

[128] Boubtane, E., J. C. Dumont & C. Rault (2014)
[129] Tertiary education.
[130] Measured by the proportion of tertiary educated people. In the Netherlands, 2002-2006, the proportion among residents was just above 0.2, for immigrants just below 0.3, according to Figure C4 in Boubtane et al.
[131] Ortega, F. & G. Peri (2009)
[132] Roodenburg, H., R. Euwals & H. ter Rele (2003)
[133] Based on a stylized model of Borjas (1995)
[134] Roodenburg, H., R. Euwals & H. ter Rele (2003), §3.3
[135] Roodenburg, H., R. Euwals & H. ter Rele (2003), §3.4

structure, relatively little empirical research has been published. The conclusion is often drawn that the effect of social security benefits on immigration is limited, but it is possible to nuance this. Pedersen et al.[136] analyse the immigration from 129 countries to 22 OECD countries in the period 1990-2000. They find a strong influence of already established immigrants – the so-called network effects – and very weak effects of public welfare benefits as a fraction of GDP. De Giorgi and Pellizari[137] study the choice of destination country in the EU15 within the group of immigrants coming to the EU15, in the period 1994-2001. They find predicted effects: immigrants prefer countries with higher wages, higher social benefits and lower unemployment. Social benefits are here very precisely defined as the benefit entitlements for a precisely defined person without work. The effect of wages is significantly stronger than the effect of benefits[138]. However, if unemployment rises from 6 to 7% in one country and falls from 6 to 5% in another, the effect on immigration can be neutralized by increasing benefits in one country by 15% and decreasing it by 15% in another. That does indicate a considerable effect of changes in policy parameters.

Razin and Wahba[139] distinguish two regimes: free and limited immigration. Free immigration applies within the EU (EU14 plus Norway and Switzerland in the study), limited immigration applies to immigration to the EU from 10 developed countries and 23 developing countries. For the years 1990-2000, they find confirmation of the "welfare-magnet hypothesis": with free mobility, more generous benefits lead to an increase in the share of low-skilled immigrants. The second hypothesis is that under the regime of limited immigration, more generous benefits lead to a greater proportion of the higher educated. The argument here is that with limited immigration, the political support for more emphasis on the admission of higher skilled people increases, because of a favourable effect on productivity and government budget. This second hypothesis emerges significantly less strongly from the econometric test. Note that this second hypothesis is not about self-selection at a low level of education among (aspiring) immigrants, but about policy makers who select based on a high level of education, in order to avoid an unfavourable effect of low-skilled immigration on productivity and government budget.

Zorlu[140] analysed administrative data on benefit use in the Netherlands for individual groups of immigrants (Moroccans, Turks, Surinamese, Antilleans, other non-Western, Westerners). He reports that first and second-generation immigrants from non-Western countries are more likely to receive social assistance and disability benefits and – albeit to a lesser extent – unemployment benefits. Adjustment for personal characteristics reduces the probability of assistance for non-Western immigrants from 5 to 2 times that of Western immigrants. The probability of assistance for second-generation non-Western immigrants hardly differs from the probability for the first generation (after adjustment for age). Non-Western immigrants therefore have characteristics that hinder the attainment of economic independence and given those characteristics, they have more difficulty achieving economic independence.[141]

[136] Pedersen, P., M. Pytlikova & N. Smith (2008)
[137] De Giorgi, G. & M. Pellizzari (2009)
[138] Measured in standard deviations three times as strong.
[139] Razin, A. & J. Wahba (2015)
[140] Zorlu, A. (2013)
[141] This does not say anything about the causes. Labour market discrimination, a lower average level of education, but also negative self-selection on benefit dependence by remigration (see §2.2) are among the possible explanations.

Immigration can be an important factor in the development of population size and population density. In the Netherlands, immigration has even become *the* determining factor in population growth. The literature discussed above does not show that immigration has a substantial robust effect on the average income of residents. In particular, redistribution effects are to be expected. If the population grows through immigration, the amount of land can hardly keep up. There is a ratio effect, with resulting redistribution. French[142] research shows that land prices in agglomeration centres are 3% higher when population growth is one percentage point higher. The price structure of land in urban areas (the land price in relation to the distance to the centre) is hardly sensitive to population growth. The rise in land prices leads to the economic advantage of urban areas being skimmed off by landowners.

Research at the level of regions within countries indicates minor scale effects of local population density on local incomes. The basic hypothesis in this literature is that population concentration can lead to agglomeration benefits, because in agglomerations close competition forces high productivity, innovations spread faster and a heterogeneous population promotes creativity and innovation. Testing in various countries on income levels – not on income growth – leads to the conclusion that within countries regions with a higher population density have a higher average income. If the population density in one region is twice as great as in another, the income is on average 5% to 8% higher[143]. However, this is more an argument in favour of population concentration in cities – rather than spreading across the country – than an argument in favour of total population growth.

In the above analyses, it is always assumed that the development of knowledge follows its own autonomous path: inventors are independent characters who only follow their curiosity in attic rooms and in garages (or at universities) and give their discoveries to the wind. It has also been suggested that a larger population size leads to more innovations: the more people, the greater the chance of good ideas. The thesis is controversial and the empirical substantiation is meagre.[144] The real breakthrough in theoretical analysis came in 1990 from Paul Romer with the so-called theory of endogenous growth, in which technological development is consciously created through investment in research. Romer's theory has not been elaborated specifically to determine the effect of immigration. Relevant to our research question is his conclusion that growth in income is higher if the economy has more human capital, but that the size of the (working) population has no influence on this. Based on Romer's theory, one could speculate that the special qualities of immigrants make research into new technologies more productive. One difficulty in testing Romer's theory is the use of variables that are difficult to measure, such as ‘existing knowledge’ and ‘new knowledge’. That is why empirical research examines the influence of immigrants and the diversity of the working population on all kinds of indicators, such as the number of innovations in products and production processes, the number of patents, business growth, (successful) new companies, et cetera. In an overview of such studies, Brunow, Nijkamp and Poot cautiously conclude that: “the net effect of immigration on economic growth is negligible or slightly positive for the host country, but in any case is not strongly negative”[145]. The review of National Academies of Sciences, Engineering, and Medicine[146], mainly for the US, shows that empirical and analytical results can vary widely between studies and that causal effects are not easy to measure.

[142] Combes, P-P., G. Duranton & L. Gobillon (2012)
[143] Ciccone, A. & R. Hall (1996), the estimate has been confirmed in several later studies.
[144] See Ermisch (1987)
[145] Brunow, S., P. Nijkamp & J. Poot (2015), pg. 1069
[146] National Academies of Sciences, Engineering, and Medicine (2016)

Increasing population density can also lead to land scarcity. In a densely populated country like the Netherlands, this restriction is more serious than in sparsely populated countries. Land is important as a location for companies, for housing, for recreation and of course for agriculture. Throughout the post-war period, the discussions about immigration have repeatedly raised the argument of high population density. However, it has never demonstrably influenced Dutch immigration policy. It did, however, determine the emigration policy immediately after the war. Illustrative calculations suggest that 10% population growth, with fixed production technology, can lead to a 2-3% drop in per capita income.[147]

The analysis so far has mainly concerned the measured income. However, income as a measurement has two important limitations. Income is an inadequate measure of psychological well-being or 'happiness'. Extensive literature has emerged on the measurement of psychological well-being, which will not be considered further here.[148] And measured incomes are also not pure measures of economic contribution (added value), due to unpriced variables and external effects.

Unpriced variables refer to items that are not traded in a market, so that pricing does not occur. Nice landscapes and a clean living environment are figuratively estimated by many to be of inestimable value and there is literally no price tag attached to it either. Because there is no price for it, we do not see effects on such variables in income formation, nor in the price index of consumption with which real incomes are determined. Yet their importance for the well-being of people is great.

There are external effects when the costs and benefits of an activity do not fall on the person who carries out the activities, but on others. The price mechanism, on which the market economy is based, is then not a good guideline for socially optimal action, because the decision about those activities is not based on the full account of income and expenditure. Archetypal examples are environmental pollution or noise nuisance, which in principle are not included in the price of car fuel or airline tickets. There is a market for such goods and services, but the pricing that is established there does not reflect all (social) costs and benefits that arise from these external effects. Fuel taxes and air passenger taxes can be seen as attempts to include these costs in the price.

Unpriced variables and external effects are often negatively related to population density: the pressure on the natural environment, biodiversity, noise, congestion, disappearance of cultural landscapes, et cetera. Much research has now been done on measuring unpriced variables and developing a broader measure of prosperity than national income.[149] Statistics Netherlands and the Netherlands Environmental Assessment Agency are international pioneers in this development. Some of the corrections to the national income can be directly related to population size.

Population growth and the contribution of immigration to it is not yet part of government policy, although some public discussion is underway. The policy relevance is evident because due to the existing high population density, population growth affects all kinds of major policy themes, such as housing shortage, traffic congestion and environmental policy. Already in the 1977 report of the Muntendam[150] Committee, the policy recommendation was distilled from the combination of constant

[147] Hartog, J. (2011)
[148] See Kahneman & Krueger (2006). An overview and further literature references are also provided in Hartog (2018)
[149] See Hartog (2018) for references to the extensive literature.
[150] Commissie-Muntendam (1977)

scale effects – a larger population size does not bring benefits through the aforementioned constant returns to scale – and negative welfare effects via the non-priced variables that the aim should be a stationary population, where immigration would not have a significant impact on demographic development in either the short or medium term. ↲

3 Literature overview of the collective sector (fiscal impact)

By Hans Roodenburg

3.1 Introduction

There is extensive body of international literature on the implications of immigration for collective finance, commonly referred to in English as 'fiscal impact'. Relatively recent reviews can be found in the *Handbook of the Economics of Immigration*, Vol. 1B from 2015[151] and in the OECD's *International Migration Outlook 2013*.[152] Older reviews can be found in an OECD *Working Paper* from 2007[153], a *Working Paper* from CESifo from 2003 and – for the United States – in the Smith & Edmonston review of 1997.[154]

Despite the large number of calculations of the effects of immigration on public finances that can be found in the literature, it is not readily possible to draw general conclusions along the lines of 'Immigration brings profit or loss to the public sector'. There are several reasons for this.

In the first place, there is a great variety in the calculation methods used. Broadly speaking, two methods can be distinguished, which are referred to by Vargas-Silva as 'static' and 'dynamic', respectively.[155] The prototype of the *static* approach is a 'snapshot'. Over a relatively short period of time, for example a year, it is examined how much certain immigrants have contributed to the collective finances through taxes and premiums and how much they have benefited from collective provisions. Contributions minus benefits yields the net contribution and this can of course be either positive and negative. A characteristic of the *dynamic* approach is that the net contribution of immigrants over their entire life course is taken into account. Thus, the widely differing net contributions in the different life stages are taken into account. During youth and old age, the net contribution is negative and in the intervening 'active' period often, but certainly not in all cases, positive. For the sake of clarity: the method used in the present report falls into the 'dynamic' category, thus taking into account the life course.

In addition to the distinction between 'static' and 'dynamic', there are even more differences in approach. For example, the problem definition can be retrospective: 'What has immigration cost or yielded in the past?', but it can also be future-oriented: 'What will immigration, as it is expected to be or according to a certain scenario, mean for public finances in the future?'. Furthermore, calculations of this type are not made solely on the basis of hard figures, but also certain assumptions must be made. To give an example: not all collective provisions can be unambiguously attributed to individuals. This will usually be possible with benefits and allowances to individuals, but decisions will have to be made for other expenditures, such as public administration, infrastructure, defence and justice. Often these expenditures are apportioned equally among all inhabitants, but a distribution key according to the contribution to GDP is also possible, and sometimes these expenditures are disregarded altogether.

[151] Vargas-Silva, C. (2015)
[152] OECD (2013)
[153] Jean, S. et al. (2007)
[154] Smith, J. P. & B. Edmonston (eds) (1997)
[155]Vargas-Silva, C. (2015)

Most studies, including the current study[156], are limited to the direct effects of immigration on collective finances, i.e., without taking into account indirect effects that can occur through interaction with the rest of the economy. There are examples of studies that include such indirect effects.[157]

Second, it makes a lot of difference which immigrants are considered. For example, experience has shown that, on average, large differences exist between immigrant groups, depending on origin and immigration motive. In Western Europe, non-Western immigrants are often more difficult to integrate than immigrants from the European Union. And non-Western immigrants with the motive 'asylum' generally show a lower labour participation and higher benefit dependency than labour immigrants. Furthermore, the definition of 'immigrant' is not the same everywhere. This is partly due to differences in statistical registration. The country of birth is often decisive, but sometimes the nationality. Furthermore, some studies only look at the first generation, while other studies also look at the second generation, and sometimes also at subsequent generations. It will be clear that this can make a difference to the outcome of the calculations.

Third, there are major differences between the institutions in the host countries. This concerns in particular taxes, social security and pension schemes. With regard to taxes, this mainly concerns the level of the tax burden and the progression in the rates. The more generous the social security (level and accessibility of benefits), the higher the costs a relatively high dependence on benefits of immigrants entails. This applies both directly, through the level of benefits, and indirectly, because generous social security can encourage its use. With regard to pensions, it concerns the financing (which mix of pay-as-you-go and capital funding) and the fiscal regime (in particular the 'reversal rule' for capital funding, in which the premiums are deductible and the pensions are taxed). A pay-as-you-go system usually works out more favourably for public finances than capital funding, certainly according to calculations of the 'static' type, because immigrants are usually young on arrival and in a pay-as-you-go system immediately start paying for the pensions of the elderly, while they themselves do not yet receive a pension. In the case of capital funding with a reversal rule, the effect is initially negative and only after retirement does the opposite effect occur.

3.2 International comparison

The foregoing explanation offers clues for further explaining differences between studies in terms of results. As a starting point, we take the following quote from an OECD Working Paper from 2007:

> "In Northern European countries … immigrants (in particular those from developing countries) are estimated to generate significant fiscal costs (see Roodenburg et al. 2003, for the Netherlands[158]; Pederson, 2002, and Schou, 2005, for Denmark and Storesletten, 2003, for Sweden; for Germany, however, Bonin et al. (2000) estimate the fiscal impact of immigration to be positive)."[159]

The studies mentioned are of the 'dynamic' type, so in terms of method more or less comparable. The identified 'significant fiscal costs' for the Netherlands, Denmark and Sweden are undoubtedly related to – among other things – the relatively extensive welfare state in these countries. However, Germany,

[156] This also applies to the CPB survey from 2003. See Roodenburg, H., R. Euwals & H. ter Rele (2003)
[157] See OECD (2013), pg. 132 and 143 onwards
[158] Roodenburg, H., R. Euwals & H. ter Rele (2003)
[159] Jean, S. et al. (2007)

also a country with an extensive welfare state, shows a positive effect. For an explanation, we zoom in on the differences between the Netherlands and Germany in the context of the studies concerned.

First, there are significant differences between the immigrant populations considered. In the Netherlands, these are non-Western immigrants according to the country of birth criterion[160]. In Germany, these are residents of foreign nationality[161]. As a result, in addition to non-Western immigrants (mainly Turkish guest workers and their descendants), Western immigrants (often from other member states of the European Union) are included in the calculations. Western immigrants perform relatively well on the labour market on average. With regard to Turkish immigrants, Germany was at the time more selective in recruiting guest workers than the Netherlands[162]. This means that the differences in results between the two studies can at least partly be explained by differences in economic potential between the immigrant populations considered.

Second, there are also institutional differences. Germany has a much higher share of the pay-as-you-go pension system than the Netherlands, which, as mentioned earlier, can give immigration a more favourable effect on public finances. Another point concerns social security. At the time, the Netherlands had a generous scheme (with the so-called WAO) – both in terms of duration and level of benefit – for disability, which term was generously interpreted in practice. This led to a significant outflow from work to benefits. A comparable exit route from the labour process was lacking in Germany[163]. All of this contributes to the divergent results of the studies for the Netherlands and Germany.

Conclusion: both differences between the immigrants considered and differences in national institutions contribute to the differing results in the relevant studies for the Netherlands and Germany.

3.3 The Netherlands

Research into the economic effects of immigration, and in particular the consequences for public finances, has never been popular among Dutch economists. This is remarkable because this type of research is carried out abroad and in particular in the United States and a lot is published about it[164]. Van de Beek[165] has written a thick dissertation to explain this phenomenon. In it you can read how the research in the Netherlands got off to a hesitant start and initially was met with a lot of resistance.

The first steps were made within the civil service circuit. In 1988, the Social and Cultural Planning Office (SCP) kicked off with an unpublished – memorandum on the costs of the presence of ethnic minorities, on behalf of the Ministry of Welfare, Public Health and Sport[166]. This exercise can be regarded as the first cost-benefit analysis of immigration to the Netherlands. The net costs, estimated over the period 1987-2000, turned out to be 53 billion Dutch guilders (24 billion euros)[167]. In the same period, civil servants in The Hague philosophized aloud about the abuse and improper use of benefits by foreign nationals and about the possibilities of granting legally resident foreign nationals the right to social

[160] For the second generation, the mother's country of birth is decisive if she was born abroad, and otherwise that of the father.
[161] Because Germany had a very restrictive naturalisation policy at the time, the difference with the country of birth criterion is not as great as it seems at first glance.
[162] Euwals, R. et al. (2008), pg. 25-26
[163] Euwals, R. et al. (2008), pg. 32
[164] See for example Smith, J. P. & B. Edmonston (eds) (1997)
[165] Van de Beek, J. H. (2010)
[166] SCP (1988)
[167] Exchange rate: one guilder = ƒ 1.00 = €0.45378.

security only after a certain amount of time[168]. In 1994, a committee chaired by senior civil servant Geelhoed issued a report on possible spending cuts related to asylum policy[169]. These first exercises received little publicity, although the calculation of the SCP caused a lot of controversy in the world of minority researchers[170], which mainly consists of social scientists.

In 1995 the agency Delphiconsult followed with the report *Goudmijn of Bodemloze Put*? *Over de kosten en opbrengsten van etnische minderheden voor de Nederlandse Staat* (Goldmine or Bottomless Pit? The costs and benefits of ethnic minorities for the Dutch State), as commissioned by VNU Newspaper Publishers[171]. According to the report, non-Western immigration had made a net contribution of tens of billions to the state treasury in the period 1960-1993. There are some comments to be made here. According to the report, a tipping point was reached in 1980 and the net contribution has been negative ever since. Furthermore, the costs of the scheme for disability benefits have been disregarded and the overrepresentation of the groups concerned in social assistance benefits has been underestimated. All of this led to distorted results[172].

The picture was less rosy in the 1999 book *Binnen zonder kloppen* (Entering without Knocking) by Pieter Lakeman[173]. In it, the author calculates that the Turkish and Moroccan guest workers have cost the government 70 billion Dutch guilders (32 billion euros) since 1974, on balance and excluding interest. The costs of immigration through the asylum channel[174] can be added to this. *Binnen zonder kloppen* generated a lot of media attention. In his thesis, Van de Beek speaks of 'mixed reactions', although it became clear that this type of research was taboo[175].

The calculations mentioned above can all be characterized as 'static', that is, the variations in the net contribution to the treasury during the life course were not explicitly included in the calculations. In 2003, the CPB Netherlands Bureau for Economic Policy Analysis (CPB) published a broad-based study of the economic consequences of immigration[176], in which a separate chapter was devoted to the effects on public finances. The approach is based on generational accounting, which was a relatively new technique at the time. An age profile of the net contribution to the public sector is drawn up for an individual. Immigrants with the characteristics of the average Dutch person – provided their age at arrival is between approximately 15 and 45 years – make a positive net contribution over their entire life course. This contribution is of course higher for immigrants who perform better on the labour market than the average Dutch person. Immigrants with the average characteristics of the population of non-Western foreigners present make a negative net contribution[177]. The CPB then calculates the long-term effects of a continuous influx of these types of immigrants, taking into account births (second and subsequent generations), mortality and return migration. The positive budgetary effect of immigrants with the characteristics of the average Dutch person appears to be marginal. A significant

[168] Ministry of Finance (1988), see also: Van de Beek, J. H. (2010), pg. 258
[169] Geelhoed, L. (1994)
[170] Van de Beek, J. H. (2010), pg. 261-262
[171] Delphiconsult (1995)
[172] Van de Beek, J. H. (2010), pg. 309-311
[173] Lakeman, P. (1999)
[174] Lakeman, P. (1999) pg. 153-154
[175] Van de Beek, J. H. (2010), pg. 311-319
[176] Roodenburg, H., R. Euwals & H. ter Rele (2003)
[177] These are currently referred to as 'persons with a non-Western immigration background'.

positive effect is observed for better performing immigrants and a clear negative effect for immigrants with the characteristics of non-Western immigrants.

In 2010 the research bureau Nyfer published a report[178] commissioned by the Dutch Freedom Party, in which the same type of method was used, but in combination with more up-to-date data and other assumptions. The report concludes that the immigration of large numbers of largely unskilled non-Western immigrants entails significant costs for public finances.

In conclusion, it can be said that all the calculation exercises mentioned, with one exception (Delphi-consult), point in the direction of a negative effect of immigration from non-Western countries on Dutch collective finances.

[178] Van der Geest, L. & A. Dietvorst (2010)

4 The net fiscal contribution of first-generation immigrants

By Jan van de Beek

4.1 Introduction

This chapter deals with the net contribution that first-generation immigrants[179] make to the Dutch treasury over their entire life course. The current report is therefore in principle an update of the report *Immigration and the Dutch Economy* from 2003[180] of the CPB Netherlands Bureau for Economic Policy Analysis (CPB). This was the first report in which the fiscal costs and benefits of immigration for the Netherlands were determined using generational accounting.

Generational accounting is used to determine what a person contributes to public finances over his or her entire (remaining) life course in the form of, for example, taxes, premiums and excise duties (revenues) and what he or she receives from the treasury in the form of, for example, education, allowances and benefits (expenditures). The life course is measured from the moment of birth or immigration to the moment of death or remigration. The total net contribution over the (remaining) life course is referred to in the current report as the *net contribution*.

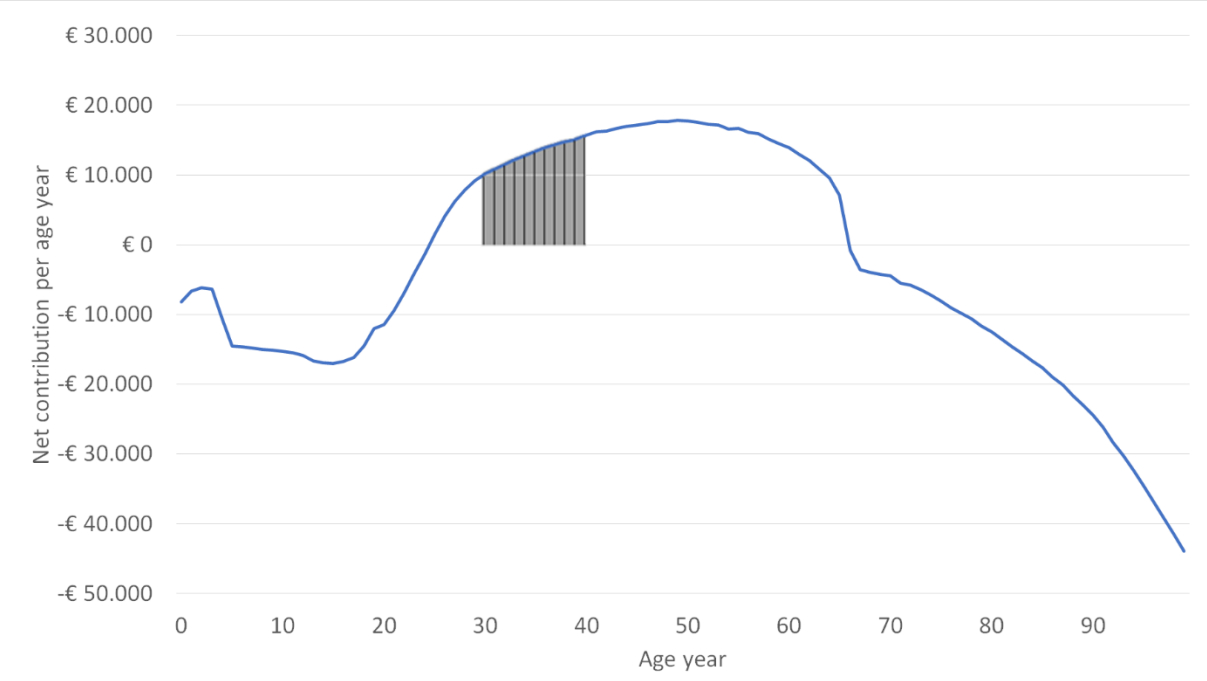


Figure 4.1 Average fiscal net contribution per age year for the Dutch population, 2016. Source: Our own calculation based on Statistics Netherlands microdata and Statistics Netherlands StatLine.

To make this concrete, Figure 4.1 shows the net contribution (benefits minus costs) per age year of the 'average Dutch person' in 2016 – the reference year of the current study. This figure shows a characteristic three-way division of life: (I) net costs during the youth phase (up to about 25 years) mainly because of education, (II) net benefits during working life (about 25-65 years) because taxes and premiums paid exceed costs for, for example, benefits and (III), once again, net costs during the retirement

[179] In the current Statistics Netherlands terminology, a first-generation immigrant is referred to as 'a person with a first-generation immigration background', who by definition 'was born abroad and of whom at least one parent was born abroad', see also the Glossary.
[180] Roodenburg, H., R. Euwals & H. ter Rele (2003)

age (from approximately 65 years) because pensions and especially health care costs far exceed the taxes paid. An immigrant who comes to the Netherlands on his thirtieth birthday, then makes a net contribution to the treasury for 10 years each year as the 'average Dutch person' of his age and remigrates again on his 40th birthday, in principle, makes a net contribution equal to the sum of the net contributions for these ten age years (see the grey shaded part in Figure 4.1). In principle, because the calculation is actually more complex[181].

In the remaining sections of this chapter, the main results with regard to the net contribution from the CPB report are first summarized and the main methodological differences with the current study are reviewed (§4.2). Subsequently, the updated results are presented and compared with the results from the CPB report (§4.3). Finally, the analysis is further explored with net contributions from immigrant groups broken down into finer geographical divisions (§4.4 and §4.5) and immigration motives such as work, study, asylum and family (§4.6).

4.2 Update of the CPB report *Immigration and the Dutch Economy*

The 2003 CPB report examined the net contribution[182] of non-Western immigration. In addition, the net contribution of a hypothetical immigrant has been calculated that is equal to the 'average Dutch person' in terms of characteristics such as income, benefit use and the like. Finally, the net contribution of a 'high-performing' immigrant, a hypothetical immigrant with above-average labour market performance, was also determined. In all these calculations, the CPB took into account the chances of remigration and death.[183]

Figure 4.2 shows the core result of that analysis. The horizontal axis shows the entry age, i.e., the age at the time of immigration. The vertical axis shows the net contribution to the treasury over the remaining life course, that is, from the moment of immigration to the moment of death or remigration. Net contribution means the total benefits for the treasury minus the total costs for the treasury, measured over the entire (remaining) life course. It can be seen that, according to this calculation, the average non-Western immigrant does not make a positive net contribution at any entry age. The least bad result is a negative net contribution of roughly - €50,000 at entry ages around 25 years. For non-Western immigrants who come to the Netherlands as small children, the (negative) net contribution over the life course is around - €100,000.

The current report presents an update of the aforementioned calculation in the CPB report from 2003. The approach is broadly the same, but there are also some major differences. First of all, there has of course been inflation in the meantime, which would have to increase the nominal amounts by about a third.[184] Furthermore, the calculations in the current report are based on more recent and more extensive data. The current report uses Statistics Netherlands microdata (for short: CBS microdata). These are very detailed, anonymised data of all more than 17 million inhabitants of the Netherlands. These detailed microdata make it possible to further break down immigrant groups, for example by region of origin and immigration motives such as asylum, work, study and family.

[181] For more information, see the Glossary, Chapter 3, Box 4.1 and the Technical Appendix.
[182] In the CPB report referred to as 'fiscal effect', Roodenburg, H., R. Euwals & H. ter Rele (2003)
[183] The amounts were also discounted at a real discount rate of 4.00% with an assumed productivity growth of 1.75%, Roodenburg, H., R. Euwals & H. ter Rele (2003), pg. 68, footnote 12
[184] The CPB report is based on the base year 2000, see further the Technical Appendix.

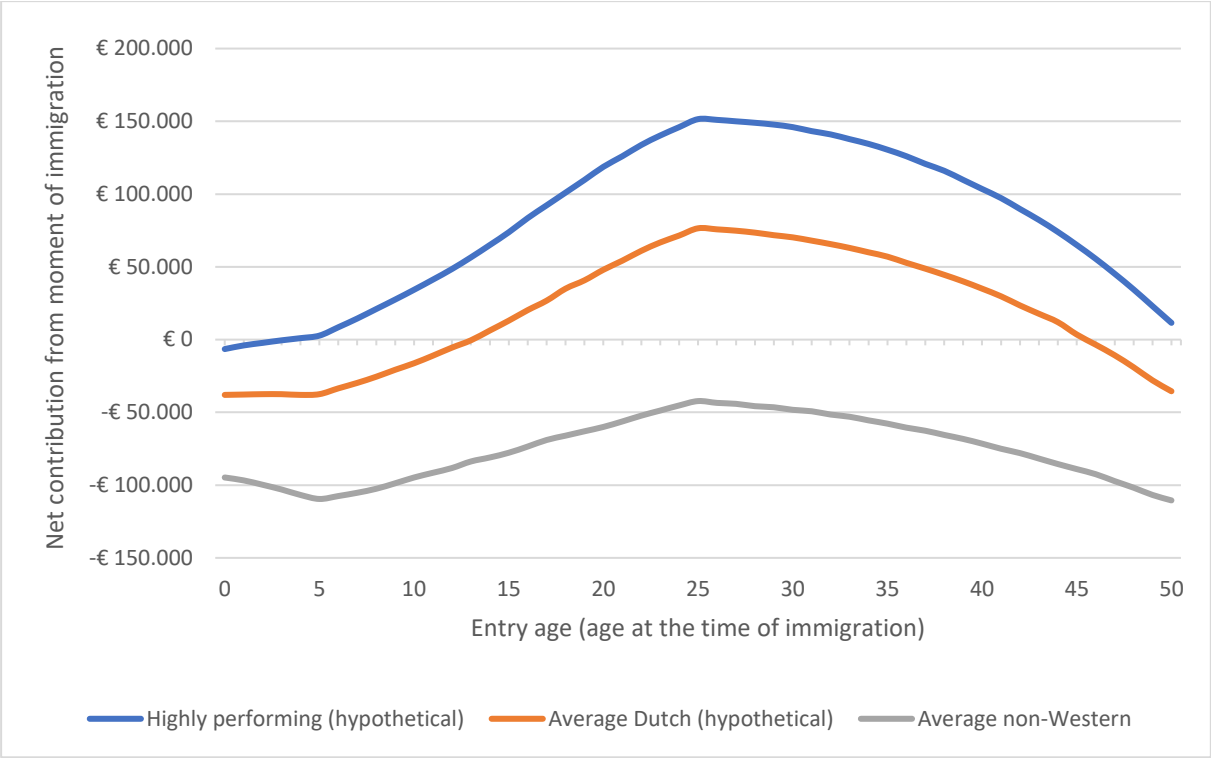


Figure 4.2 Net contribution of four types of immigrants by age of entry. Source: free to CPB (2003), Immigration and the Dutch Economy*, Figure 4.4 p. 70.*[185]

In addition, there is also an important technical difference between the current study and the CPB study from 2003: in 2003 the CPB calculated the costs for so-called public goods such as public administration, defence and the like according to the extent to which citizens contributed to the gross domestic product[186]. As a result, citizens who earned a lot of money were also attributed many of these costs. Conversely, few of the costs of those public goods were attributed to citizens who earned little. In principle, the current report is based on the approach that the CPB has applied more recently in its aging studies, in which the costs for public administration, defence and the like are the same for all citizens.[187] In other words, in the CPB study from 2003 the individual importance of public goods was measured against individual income, in the approach in the current report everyone has the same interest in public goods. The approach in the CPB report from 2003 dampened the differences between groups considerably. Partly because of this, the differences between groups in the current report are larger. For more details on the calculation, see the Technical Appendix. See §6.5 for a sensitivity analysis that shows the effect of the various choices on the net contribution.

[185] Roodenburg, H., R. Euwals & H. ter Rele (2003)
[186] Roodenburg, H., R. Euwals & H. ter Rele (2003), pg. 67
[187] "Other expenditures, such as public administration and defence, is a fixed fraction of GDP. In the absence of information, the benefits are assumed to be the same for all citizens." ("De overige uitgaven, zoals openbaar bestuur en defensie, vormen een vaste fractie van het bbp. De baten ervan worden, bij gebrek aan informatie, voor alle burgers gelijk verondersteld.") Smid, B., ter Rele, H., Boeters, S., & Draper, N. A. Nibbelink & B. Wouterse (2014), pg. 31

Generational accounting is used to determine what a person will contribute to public finances over his entire (remaining) life course in the form of, for example, taxes, premiums and excise duties (revenues) and what he or she receives from the treasury in the form of, for example, education, and benefits (expenditures). The life course is measured from the moment of birth or immigration to the moment of death or remigration.

In concrete terms, one proceeds as follows with generational accounting. First, for each year of a person's (remaining) life, one determines the net amount – benefits minus costs – that the treasury is expected to receive from that person in that year. The current study uses data from the entire population that was present in the Netherlands in 2016 for this expectation. This was done as much as possible on the basis of Statistics Netherlands microdata, very detailed anonymised data of all approximately 17 million persons included in the population register of a Dutch municipality.

On the basis of these data for 2016, the average income and expenses for the treasury have been calculated per age year for groups of people with certain characteristics such as immigration background (origin group, generation), immigration motive and/or level of education. These amounts have been extrapolated as accurately as possible to the future, whereby adjustments have been made, among other things, on the basis of CPB data for matters such as the expected economic development and effects of (proposed) policy, such as the increase in the retirement age. Subsequently, it is assumed that these adjusted amounts for future ages of the persons concerned correspond with the amounts per age year observed for 2016. In concrete terms: an EU labour immigrant who turns 30 in 2016 will be allocated the (corrected) amounts in 2026 that applied to a 40-year-old EU labour immigrant in 2016 (see the Technical Appendix for a further discussion of this assumption). Subsequently, the so-called *present value* of all (future) amounts was determined at a certain *discount rate* (see the Glossary). Finally, all these discounted amounts are added up. The amount that results is the total net contribution over the (remaining) life course, expressed as discounted value, which in the current report is referred to simply as '*net contribution*'.

The concept of *present value* can be understood as follows. If someone wants to have €10,000.00 available for a trip in 10 years' time and he or she wants to make a one-off deposit for this now into a deposit account that gives 1% interest, a deposit of €9,052.87 will suffice. The interest-on-interest effect ensures that the amount has grown to €10,000 after 10 years. Determining the present value of a series of future amounts at a given discount rate is also used, for example, to calculate whether the money that a pension fund has in cash in the present is sufficient to pay all future pensions if the pension fund is at least achieves a return equal to the discount rate.

When calculating the net contribution of immigrants, a number of things are not relevant for residents. First of all, one must take into account remigration, because costs and benefits stop (with the exception of some benefits) when the immigrant has left the Netherlands again. In addition, one must also take into account the age at the time of immigration, the so-called *entry age*. After all, only the costs and benefits during the stay in the Netherlands count and the amounts before the entry age must therefore be ignored. The net contribution over the (remaining) life course is therefore different for each entry age. Finally, when calculating the net contribution of immigrants, one must take into account the distribution over entry ages of immigrants, referred to in this report as the *immigration profile*. For many groups, for example, a large proportion of immigrants come to the Netherlands in their twenties and only a very small proportion in their eighties. This means that the net contribution of people in their twenties must also weigh much more heavily than the net contribution of people in their eighties. For this reason, the calculation of the net contribution of immigrants is weighted according to the aforementioned immigration profile.

Of course, the whole calculation is a bit more complex, because things like the costs for asylum reception and the issuing of residence permits, pension rights that are taken abroad, savings on the funding of higher education for students from outside the European Economic Area and a few other things must also be taken into account. Please refer to the Technical Appendix for this. *Italicized terms in this box are explained in more detail in the Glossary.*

Box 4.1 Explanation of generational accounting.

4.3 Net contribution of Western and non-Western 1st generation

This update first of all provides an analysis of the net contribution of the average, the Western and the non-Western immigrant. In addition, the net contribution is also given of a hypothetical immigrant – hereinafter referred to as the 'native Dutch reference' – who is equal to the average native Dutch person (resident with Dutch background) in terms of labour market performance, income, etc. and is equal to the average immigrant in terms of immigration behaviour and accrual of pension and pension rights.[188] Finally, the net contribution is also given of the average native Dutch person born in 2016 and the average resident of the Netherlands born in 2016.[189]

For immigrants, these calculations are based on the microdata of 1.9 million immigrants, including more than 1.1 million non-Western immigrants and nearly 0.8 million Western immigrants. The other calculations are based on the data of 13.2 million native Dutch people and 17.2 million inhabitants of the Netherlands respectively.

For the sake of readability, the amounts in the text of the rest of this chapter are given in multiples of €5,000 as much as possible when referring to figures. In case of references to tables, rounding is used in the table.

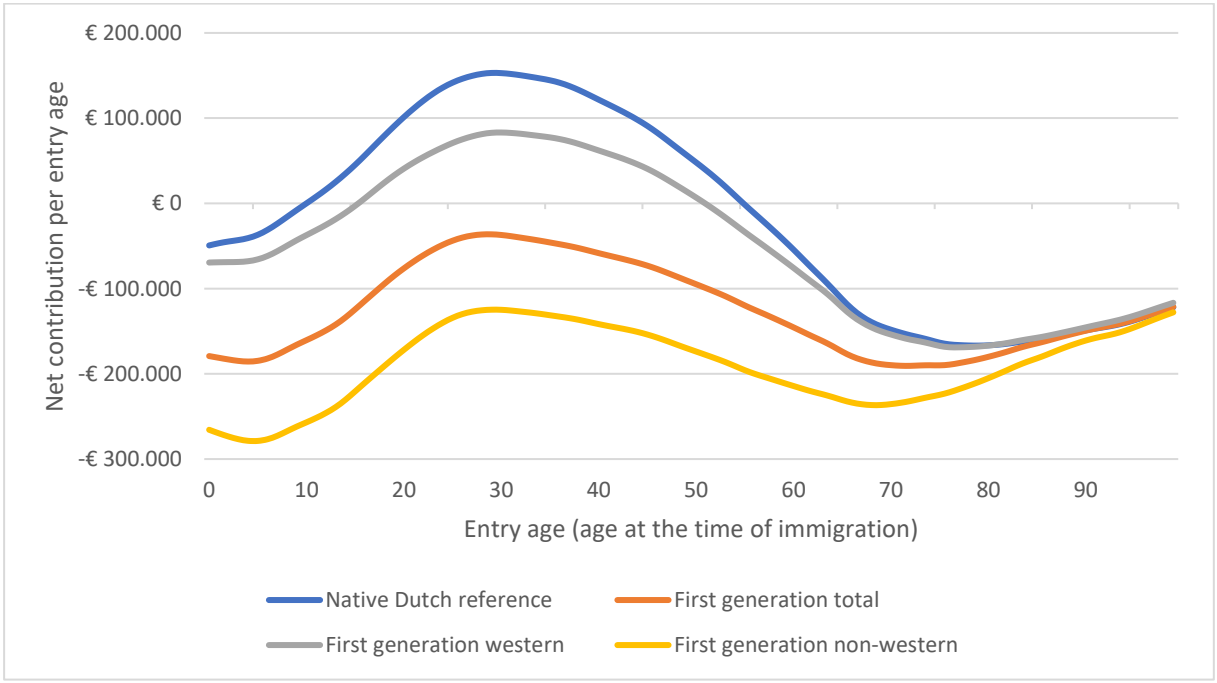


Figure 4.3 Net contribution by entry age for first-generation immigrants, total and broken down by Western and non-Western and for hypothetical immigrants with the characteristics of the average native Dutch person (referred to as 'native Dutch reference'). Source: our own calculation based on Statistics Netherlands StatLine and Statistics Netherlands microdata.

The results of this calculation are shown in Figure 4.3. The horizontal axis shows the entry age, i.e., the age at the time of immigration. The vertical axis shows the net contribution to the treasury over the entire life course, that is, from the moment of immigration to the moment of death or remigration.

[188] See the Glossary and Technical Appendix for more information.
[189] Where the net contribution is calculated from birth to the moment of death, without taking remigration into account.

It is clear that Western immigrants make a higher net contribution on average for each entry age than non-Western immigrants. Furthermore, the native Dutch reference – the hypothetical immigrants with the characteristics of the native Dutch – perform better on average than both Western and non-Western immigrants. In all cases, the maximum contribution is around an entry age (age at immigration) of just under 30 years. There will then no longer be any costs for education, while there will still be a long period in which taxes and premiums can be paid.[190]

Figure 4.3 also shows that the average non-Western immigrant does not make a positive net contribution for any entry age. In the least unfavourable case – if the average non-Western immigrant immigrates around the age of 30 – the net cost will be approximately - €125,000. The average Western immigrant makes a positive net contribution over entry ages of roughly 15 to 50 years, peaking at approximately €85,000. The native Dutch reference does even better with a peak that is almost twice as high at approximately €155,000. The average immigrant in the Netherlands – so Western *and* non-Western together, indicated in Figure 4.2 as 'first generation total' – does not make a positive net contribution at any entry age; the least negative contribution is approximately - €40,000.

In the last column of Table 4.1, the net contribution per person is given for the different groups. The amounts vary considerably. The average Western immigrant makes a positive contribution of €42,000 from the moment of immigration to the moment of remigration or death. The average non-Western immigrant makes a (negative) net contribution of - €167,000, in other words: it costs the treasury €167,000 net. The average immigrant (so Western and non-Western together) makes a negative net contribution of - €76,000 over the entire life span. The native Dutch reference – the hypothetical immigrant with the characteristics of the average native Dutch person – makes a positive net contribution of €98,000.

For comparison, Table 4.1 also shows the net contributions for an 'average resident of the Netherlands' born in 2016 (- €65,000) and a native Dutch person born in 2016 (- €3,000). As said, a Western immigrant makes a net contribution of €42,000 which is considerably greater than the - €3,000 of a native Dutch person born in 2016. That seems more positive than it is. After all, for immigrants there are usually relatively little costs for the youth phase of life, as most immigrants are adults when they come. Figure 4.1 shows that those costs are very significant. The total amount for child benefits, education, student finance and care that the average resident of the Netherlands receives over the first 20 years of life is approximately €200,000. With immigration, the government therefore saves considerably on the costs for the youth phase, because only a relatively small part of the first generation immigrates as children. A difference of €45,000 does not reflect that savings. That is why the native Dutch reference has been created as a reference category for this report. Comparison shows that the average Western immigrant underperforms by about €56,000 compared to the native Dutch reference (€98,000 - €42,000, see Table 4.1).

The results found in the current report are in line with the results in the CPB-report *Immigration and the Dutch Economy* from 2003. In order to be able to compare the results with regard to the net contribution of the first generation of non-Western immigrants, the information from the CPB report has

[190] Moreover, at that age the costs for old age are still far in the future, and therefore due to discounting they do not count as much as for immigrants who come to the Netherlands at a higher age.

been reduced to the conditions of the current report. This is estimated to generate a net contribution of approximately - €200,000, which is slightly lower than the result in Table 4.1.

Table 4.1 Above: net contribution for immigrants, with remigration, (right) net contribution per person, (left) net contribution by entry age for six selected entry ages and (middle) for a hypothetical family consisting of two parents with entry age 30 years, one child with entry age zero and one child with an entrance age of ten years. Below: net contribution, from birth, without remigration, for persons born in the Netherlands. NB: there may be minor deviations due to rounding. Source: own calculation based on Statistics Netherlands StatLine and Statistics Netherlands microdata.

	Net contribution (x €1,000)							
	by entry age (years)						hypothet-ical family	per person
Immigrants (with remigration)	**0**	**10**	**30**	**50**	**70**	**90**		
First generation total	-179	-160	-37	-95	-190	-149	-414	-76
First generation Western	-69	-37	83	7	-154	-145	60	42
First generation non-Western	-266	-257	-125	-174	-236	-161	-772	-167
Native Dutch reference	-49	0	153	48	-148	-149	256	98
Born in the Netherlands (without emigration)								**per person**
Average native Dutch person (person with a Dutch background)								-3
Average resident (total all immigration backgrounds)								-65

Following the CPB study from 2003, we can also use Table 4.1 to perform simple calculations. To this end, the amounts from Figure 4.3 have been placed in Table 4.1 for a number of entry ages. An average immigrant family with two thirty-year-old parents and two children born abroad, aged zero and ten, respectively, costs the treasury more than four hundred thousand euros (- €414,000). An average Western family with the same composition yields €60,000 for the treasury. An average non-Western family with this composition, on the other hand, costs almost eight hundred thousand euros (- €772,000). And if the hypothetical family has the characteristics of the native Dutch reference, it makes a positive net contribution of €256,000.

As will become apparent in the following sections, things are more nuanced because the categories Western and non-Western are rather rough and there are major differences within these categories. In addition, the second generation has not been considered here. There are children in this example, but they also belong to the first generation, because they were born abroad. Nevertheless, these calculations already provide a picture of the expected contributions.

4.4 Net contribution of 1st generation for 12 Statistics Netherlands world regions

The division into Western and non-Western that was used in the previous section has the disadvantage that it is rather coarse. In this section, the net contribution is presented for a breakdown into 12 regions of origin, derived from Statistics Netherlands. In presenting the population forecasts, Statistics Netherlands uses this subdivision, which is referred to in the rest of the report as the '12-part division'. In this classification – in addition to the Netherlands – four Western and seven non-Western regions of origin are distinguished.

Of the four Western regions, two are located in Europe, namely the European Union and the Other Europe region (excluding Turkey). Turkey has been classified as a non-Western European country by

Statistics Netherlands. The other two Western regions lie outside Europe, namely the former colony of *Indonesia* (which has been classified as Western by Statistics Netherlands) and the region Other outside Europe, which includes North America, Oceania and Japan, the latter also classified as Western.

The seven non-Western regions are the four 'classic' countries of origin Turkey, Morocco, Suriname and the region of Aruba and the (former) Netherlands Antilles. In addition, the continent regions Asia (excluding Indonesia and Japan), Africa (excluding Morocco) and Latin America (excluding Suriname, Aruba and the (former) Netherlands Antilles) are distinguished.

The number of first-generation immigrants from these regions varies from 43 thousand for the region Other outside Europe to 513 thousand for the European Union region. In total, the analysis is based on 1.9 million first-generation immigrants.

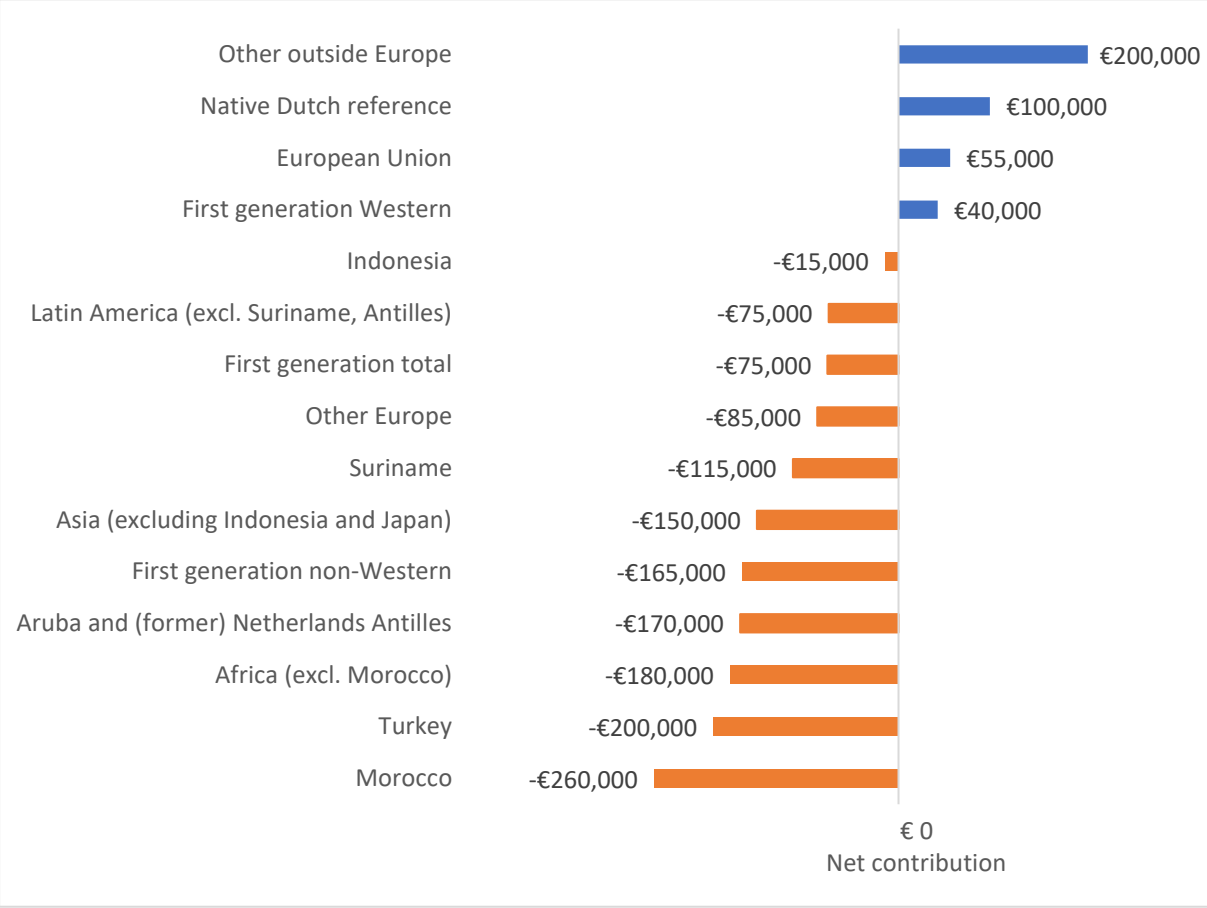


Figure 4.4 Net contribution of first-generation immigrants by immigration background and of native Dutch reference (hypothetical immigrant with the characteristics of the average native Dutch person). Source: our own calculation based on Statistics Netherlands StatLine and Statistics Netherlands microdata.

The results are shown in Figure 4.4. This figure also includes the results from the previous section. It can be seen that only the region of origin Other outside Europe has a higher contribution than the native Dutch reference – the hypothetical immigrant with the characteristics of the average native Dutch. The net contribution of this group amounts to €200,000. This mainly concerns the countries of origin Japan, Canada, the US, Australia and New Zealand, classified by Statistics Netherlands as 'Western'. Immigrants from the European Union (approximately €55,000) also make a positive net

contribution. Immigrants from Indonesia, also classified as Western, make a small negative contribution (- €15,000). There is one Western region with a substantial negative contribution, namely Rest of Europe (approximately - €85,000). This is a very heterogeneous region, with prosperous EFTA countries such as Norway and Switzerland, but also former Yugoslavia and the former Soviet Union where many asylum immigrants come from, who on average make a substantial negative net contribution (see §4.6).

In this classification, non-Western immigrants make a negative net contribution, regardless of their region of origin. Within the non-Western regions, however, there is a large spread with the least negative net contributions for Latin America (approximately - €75,000) and Suriname (approximately - €115,000) and the largest net costs for immigrants from Turkey (approximately - €200,000) and Morocco (approximately - €260,000). Immigrants from Asia (approximately - €150,000), Africa (approximately - €180,000) and Aruba and the (former) Antilles[191] (approximately - €170,000) are in terms of net costs around the average for non-Western immigrants (approximately - €165,000).

4.5 Net contribution of 1st generation immigrants for 42 regions of origin

The division into 12 Statistics Netherlands regions does not do justice to the large differences within regions and sweeps disparate countries into one heap. That is why these regions have been further split into 42 regions of origin, also referred to as the '42-part division' in the rest of the report. The minimum group size in this format is 5,000 people and the average group size is 48,000 people. This analysis is also based on Statistics Netherlands microdata of 1.9 million first-generation immigrants.

The results of this analysis are given in Figure 4.5 in the form of a world map and also in Table 4.3 (column 'With remigration, Gen. 1'). In this figure, blue and green colours represent (very) high positive net contributions and red and orange colours represent (very) high negative net contributions. The yellow colours represent more or less neutral net contributions (around €0). In this map, the Netherlands is coloured with the net contribution of the Native Dutch reference – a hypothetical immigrant with the characteristics of the average Dutch native and the immigration behaviour of the average immigrant.

This classification reveals major differences within the continents[192]. For Latin America, immigrants from the Caribbean (- €195,000) make a much lower net contribution than immigrants from the economically more developed southern countries such as Brazil and Argentina, which are part of the so-called Mercosur customs union.

Within Africa, there is a striking contrast between immigrants from Southern Africa, who make a positive net contribution of €180,000, and immigrants from the rest of Africa. Immigration from the Southern Africa region is for the most part immigration from South Africa and consists for a considerable part of immigrants with younger or older Dutch roots.[193] Immigrants from the East African region make a modest negative net contribution to the treasury. Immigrants from the other African regions show

[191] It can be argued that immigrants from Aruba and the (former) Netherlands Antilles are in a certain way not actually 'international' immigrants, but for the sake of simplicity we use a uniform language.
[192] The classification into continents follows the Statistics Netherlands classification into 'Western' and 'non-Western' and according to this classification, North America (in the continent America), Japan and Indonesia (in the continent Asia) and Turkey (according to the Statistics Netherlands classification in the continent Europe) are classified by the CBS as the 'Western' parts of otherwise 'non-Western' continents.
[193] See also §6.4 and the Glossary, term Southern Africa.

significant negative net contributions. Immigrants from the Horn of Africa and Sudan region in particular – with countries such as Somalia, Ethiopia and Eritrea where many asylum seekers come from – make a substantial negative net contribution, amounting to approximately - €315,000.

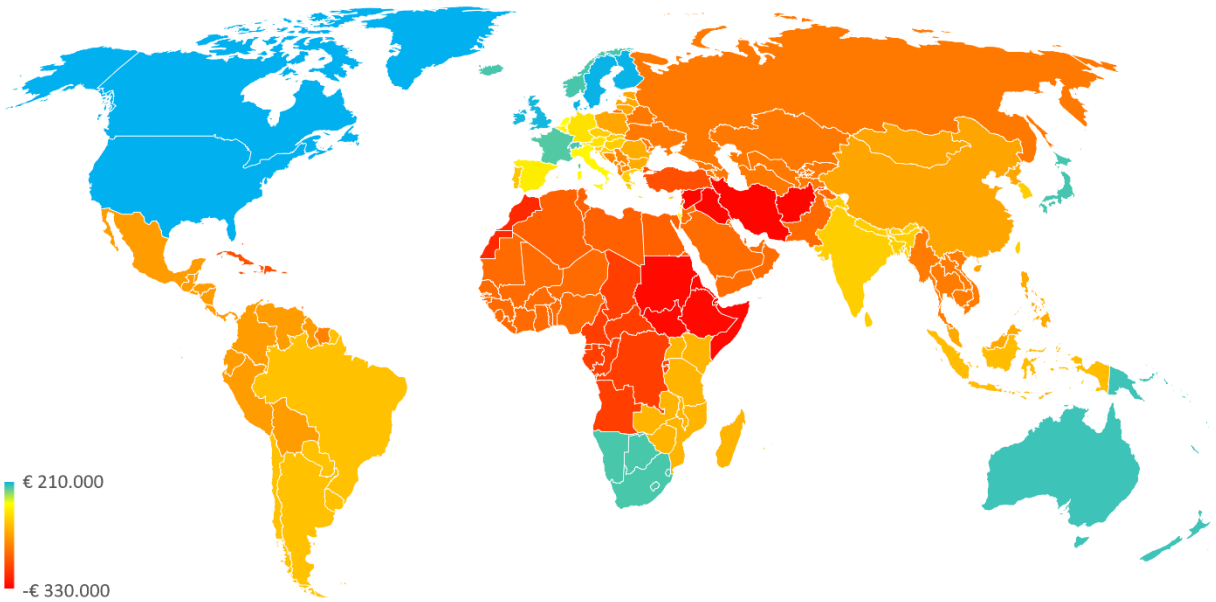


Figure 4.5 Net contribution of first-generation immigrants for 42 regions of origin, with remigration. The Netherlands is coloured with the results of the native Dutch reference (a hypothetical immigrant with the characteristics of the average native Dutch person). Source: Our own calculation based on Statistics Netherlands StatLine and Statistics Netherlands microdata.

Within Asia, comparable negative amounts (approximately - €320,000) apply to the net contribution of immigrants from the Afghanistan, Iran, Syria and Iraq region, also a typical asylum origin region. Furthermore, the difference between the net contribution of immigrants from Pakistan (- €150,000) and the rest of the Indian subcontinent (€15,000) is striking. These regions share a lot of culture and history, but apparently have a different dynamic with regard to immigration to the Netherlands. Finally, there is a strong contrast between immigrants from Israel who, with this classification[194], make the highest net contribution within Asia (+ €75,000) and the surrounding countries on the Arabian Peninsula and Jordan and Lebanon (- €150,000).

First-generation immigrants from Western countries generally make a positive contribution. This is especially the case for Japan, France, Switzerland, Scandinavia and the Anglo-Saxon countries, with North America (€210,000) as the outlier, and to a lesser extent for a number of other European countries. Immigrants from Central and Eastern European countries such as Romania, Bulgaria, Poland and the Baltic states cost a net €40,000 to €50,000. Finally, also in Europe it is the immigrants from the typical asylum origin regions of former Yugoslavia and the former Soviet Union who make the largest negative net contribution relative to the other European countries of - €100,000 to - €130,000.

[194] I.e., the division into Western and non-Western countries. Statistics Netherlands classifies Japan and Indonesia as Western and the other Asian countries – including Israel – as non-Western. Among the non-Western countries in Asia, the net contribution of immigrants from Israel is highest. However, Japanese immigrants make a higher net contribution than Israeli immigrants.

4.6 Net contribution of 1st generation (from 1995) by motive and region of origin

This section presents the results of the analysis of the net contribution of first-generation immigrants with different immigration motives. Five motives distinguished by Statistics Netherlands were used, namely 'work', 'study', 'asylum', 'family immigration' and 'other'. Family immigration involves family formation and family reunification, and is often abbreviated in the current report as 'Family migration' or simply 'Family'.

The immigration motive is the immigration reason stated by the immigrant.[195] This concerns data from the Immigration and Naturalisation Service IND that is available for some of the immigrants and is further supplemented by Statistics Netherlands.[196] It cannot be ruled out that motives other than the stated motive also played a role, a point that will be explored further in §6.4. Statistics Netherlands also publishes statistics about the immigration motive (the reason for residence) that are based on the actual behaviour of the immigrant after immigration. The motives in these statistics differ from the statistics directly based on IND data. In the present study, however, the latter have been used, because they relate most directly to the admission policy as implemented by the IND and are therefore the most policy-relevant.

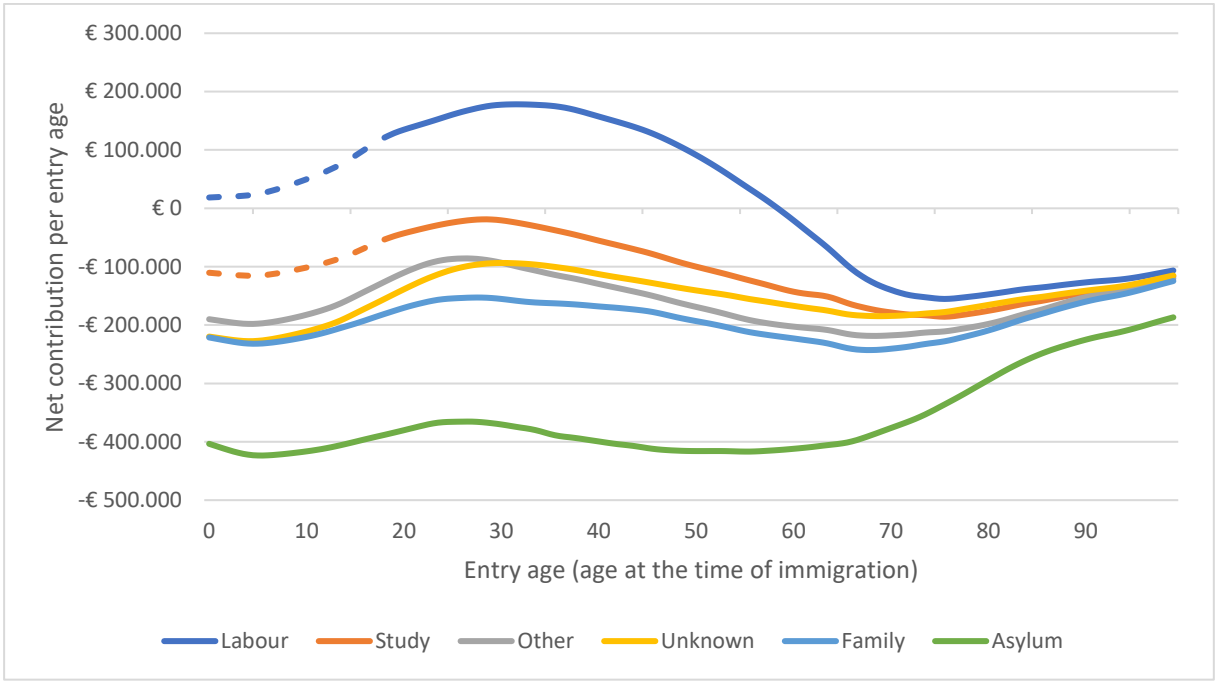


Figure 4.6 Net contribution of first-generation immigrants by immigration motive and entry age. For study and work immigrants, the numbers for young ages are low and the profile is wholly or partly synthetic, which is indicated by a dotted line.[197] Source: Our own calculation based on Statistics Netherlands StatLine and Statistics Netherlands microdata.

[195] This is not without obligation, because the migration motive determines the regulations that apply and therefore also the legal position of the person concerned.

[196] Imputation by estimation based on the known data.

[197] There are no data on labour immigrants under the age of 14. There are relatively few data for ages between 14 and 19 years, the curve for this age is dotted to indicate this. Incidentally, this is not a problem when determining the net contribution over the life course, after all, if there are no data for certain ages, the ages in question do not have to be taken into account and if there are few data, the resulting uncertainty is hardly taken into

Table 4.2 Net contribution of first-generation immigrants (immigration from 1995) by immigration motive and region of origin. Source: Our own calculation based on Statistics Netherlands StatLine and Statistics Netherlands microdata.

	Net contribution over the life course (x €1,000)		
	Western	Non-Western	Total
Work	161	90	153
Study	9	-74	-34
Other	-67	-232	-120
Unknown	-26	-188	-138
Family	-103	-263	-182
Asylum	-251	-433	-392

There is an important difference between the analysis by region in the previous sections and the analysis by immigration motive. The immigration motive is not registered until 1995. This means that the analysis by motive is based on a smaller group of first-generation immigrants. But it also means that it provides insight into the fiscal effects of recent immigration, from the year 1995.[198] This is important for the interpretation because there is no direct influence of, for example, the recruitment policy for guest workers or immigration due to the decolonization of Suriname.

For some of the immigrants no motive is available or they do not have to state a motive, for example because they have the Dutch nationality.[199] This group is categorized as 'unknown'. Because the immigration motive is only available from 1995, only people who have immigrated from 1995 onwards are included in the motive unknown. In this way, the category unknown is more comparable with the five other immigration motives.

The result of the analysis by immigration motive is shown in Figure 4.6. This shows a clear order. Immigrants who come with motive labour make the largest net contribution in relative terms. They make a positive contribution for entrance ages up to approximately 60 years. For the motives study, family, other and unknown, there is a negative net contribution for all entrance ages. This negative net contribution is the smallest for study immigrants. Asylum seekers make the largest negative net contribution. For entrance ages up to approximately 70 years, the net costs (costs minus the benefits) for asylum seekers amount to roughly €400,000. This is mainly due to the very weak labour market

account in the net contribution over the life course. Something similar applies to study immigrants. There are no data for ages up to four years and few data for ages up to 15 years.

[198] More precisely formulated: insight into the fiscal effect of immigration that took place from 1995, calculated on the basis of the data of immigrants who came from 1995 and who were present in the Netherlands in 2016, based on the amounts observed in the average (cross-sectional) in 2016.

[199] "Only persons with a non-Dutch nationality are registered with the IND. Statistics Netherlands therefore only has information about the motives of immigrants with a non-Dutch nationality who come to the Nether-lands." "*Bij de IND zijn alleen personen met een niet-Nederlandse nationaliteit geregistreerd. Het CBS heeft dan ook alleen informatie over de motieven van immigranten met een niet-Nederlandse nationaliteit die naar Nederland komen*." Statistics Netherlands (2020) Statistiek Migratiemotieven, retrieved 24-12-2020 from: https://www.cbs.nl/nl-nl/onze-diensten/methoden/onderzoeksomschrijvingen/korte-onderzoeks-beschrijvingen/statistiek-migratiemotieven

performance and high benefit utilization. In addition, the costs of integration and especially the reception of asylum seekers push the net contribution line even further down across the board.[200]

Table 4.2 shows the amounts for the net contribution over the life course for the various immigration motives (in the Total column). In fact, these are the costs and benefits from the moment of immigration to the moment of death or remigration. Labour immigrants make a substantial positive net contribution of approximately €153,000. That is understandable, because the Dutch government has little or no costs for education for labour immigrants and they come to work and therefore have good labour market performance from the start. Furthermore, labour immigrants remigrate quite a lot, which means that there are also fewer costs for retirement.

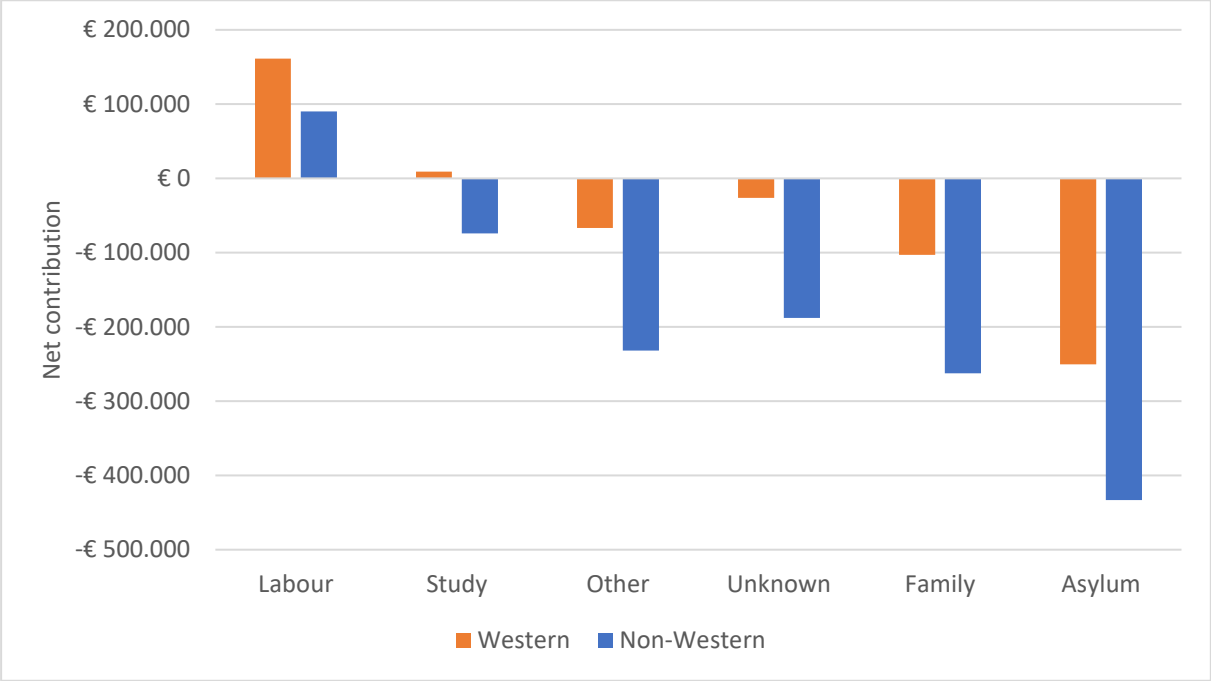


Figure 4.7 Net contribution of first-generation immigrants (immigration from 1995) by immigration motive and origin (Western and non-Western). Source: Our own calculation based on Statistics Netherlands StatLine and Statistics Netherlands microdata.

Study immigrants make a negative net contribution of approximately - €34,000. It should also be borne in mind that – certainly in the case of long-term or permanent settlement – a significant part of labour or study immigration is accompanied by family reunification, which entails a fairly substantial negative net contribution of - €182,000. Immigrants with motives other (- €120,000) and unknown (- €138,000) also make substantial negative net contributions to the treasury throughout their stay.

[200] The costs of the asylum reception are calculated at €53,700. The costs of integration are (for asylum seekers) calculated at €5,200 for every asylum immigrant with an integration requirement. The amount for the asylum reception is quite high because the costs for COA, IND and the like are simply high. The total costs for COA alone, according to the national budgets 2008-2018, for the period 2013-2018 amounted to 5.1 billion euros for 132,000 residence permits (€39,000 per residence permit) and over the period 2008-2018 7.4 billion euros for 169,000 permits (€43,000 per permit). There are also the costs for the IND, the Return and Departure Service (Dienst Terugkeer en Vertrek), and refugee organizations such as Vluchtelingenwerk and Nidos. See further the Technical Appendix.

The largest negative contribution of - €392,000 is made by asylum seekers, mainly due to poor labour market performance. Unlike labour immigrants, these asylum immigrants are subject to restrictions during the asylum procedure for performing paid work[201], as a result of which most of them start their stay as status holders from a position of benefit dependence. In addition, in contrast to labour and study immigration, asylum immigration is not selective with regard to the level of education. This is reflected, among other things, in significant differences in Cito scores and educational level between the different motives, a topic that is explored in Chapter 9.

In Table 4.2 and Figure 4.7, the net contributions over the life course are broken down into the Western and non-Western origin categories. It can be seen that Western immigrants make a greater positive or less negative net contribution to the treasury for all motives. The differences are considerable: approximately €75,000 for study and labour immigration and more than double that for family immigration, asylum immigration and immigration with other or unknown motives.

[201] An asylum seeker is allowed to work 24 weeks a year in the Netherlands. Asylum seekers who act as artists are allowed to work 14 weeks a year. You can only work with a work permit (TWV).

Table 4.3 Net contribution (× €1,000) by immigration background. Source: Own calculation on CBS microdata.

	With remigration			Without remigration		
	Gen. 1	**Gen. 2**	**Total**	**Gen. 1**	**Gen. 2**	**Total**
Native Dutch reference	**98**	**-3**	**95**	**199**	**-1**	**198**
All immigrants	**-76**	**-72**	**-148**	**-130**	**-140**	**-270**
Western	**42**	**-19**	**23**	**100**	**-39**	**61**
European Union	**55**	**-19**	**36**	**129**	**-39**	**89**
West Europe (UN region)	**73**	**-21**	**53**	**177**	**-44**	**132**
Belgium and Luxemburg	78	-14	63	187	-28	158
Germany and Austria	48	-25	23	123	-55	68
France	174	-9	165	396	-17	379
UK, Ireland, Denmark, Sweden and Finland	**203**	**-8**	**195**	**468**	**-17**	**452**
Denmark, Sweden and Finland	206	2	208	498	8	506
UK and Ireland	201	-10	191	457	-20	437
GIPS countries, Malta and Cyprus	**49**	**-30**	**19**	**113**	**-64**	**49**
Greece and Cyprus	14	-26	-13	34	-56	-22
Italy and Malta	84	-34	50	187	-73	114
Portugal	1	-27	-27	8	-58	-49
Spain	69	-29	39	160	-62	98
CEE countries	**-36**	**-23**	**-59**	**-67**	**-43**	**-110**
Bulgaria and Romania	-41	-28	-70	-77	-55	-132
Poland and Baltic states	-50	-20	-71	-97	-38	-135
Hungary, Czech Rep., Slovakia, Slovenia and Croatia	14	-20	-6	38	-38	0
Other Europe	**-87**	**-49**	**-136**	**-140**	**-86**	**-226**
EFTA, dwarf states and crown dependencies	178	4	182	334	11	344
Former Yugoslavia (excl. Slov. and Cr.) and Albania	-102	-59	-161	-164	-104	-267
Former Soviet Union (excluding Baltic States)	-129	-48	-177	-215	-84	-299
Other outside Europe	**202**	**-8**	**195**	**514**	**-17**	**497**
North America	210	-7	203	536	-15	521
Oceania	183	-17	166	472	-39	433
Japan	180	14	194	440	37	477
Indonesia	**-15**	**-9**	**-24**	**-9**	**-15**	**-24**
Non-Western	**-167**	**-114**	**-282**	**-281**	**-208**	**-489**
Asia (excl. Indonesia and Japan)	**-151**	**-38**	**-189**	**-252**	**-66**	**-318**
East Asia	**-30**	**3**	**-27**	**-52**	**10**	**-43**
South Korea, Taiwan, Hong Kong and Singapore	15	-1	14	38	1	39
China, Mongolia and North Korea	-52	5	-47	-99	16	-84
Southeast Asia	**-94**	**-31**	**-125**	**-155**	**-51**	**-206**
The Philippians, Malaysia, Brunei and East Timor	-48	-19	-66	-74	-29	-103
Thailand, Indochina and Myanmar	-121	-37	-159	-202	-63	-266
Indian subcontinent	**-34**	**-55**	**-89**	**-75**	**-111**	**-186**
Indian subcontinent excl. Pakistan	15	-42	-27	27	-83	-56
Pakistan	-153	-85	-238	-310	-174	-485
West Asia	**-285**	**-84**	**-370**	**-430**	**-137**	**-567**
Afghanistan, Iran, Syria and Iraq	-322	-96	-418	-480	-157	-637
Arabian Peninsula, Jordan and Lebanon	-149	-75	-224	-220	-122	-342
Israel	77	-19	58	145	-24	121
Turkey	**-198**	**-142**	**-340**	**-326**	**-223**	**-549**
Morocco	**-261**	**-281**	**-542**	**-389**	**-417**	**-806**
Africa (excl. Morocco)	**-180**	**-151**	**-331**	**-306**	**-297**	**-603**
North Africa (excl. Morocco)	**-170**	**-149**	**-319**	**-298**	**-270**	**-568**
Sub-Sahara Africa	**-176**	**-185**	**-361**	**-298**	**-366**	**-664**
West Africa	-150	-198	-348	-256	-394	-650
Central Africa	-226	-156	-382	-394	-308	-702
Horn of Africa and Sudan	-315	-291	-606	-557	-583	-1140
East Africa	-28	-70	-98	-20	-131	-151
Southern Africa	178	-20	158	378	-31	346
Suriname	**-113**	**-72**	**-185**	**-178**	**-119**	**-297**
Aruba and (former) Dutch Antilles	**-169**	**-85**	**-254**	**-296**	**-173**	**-469**
Latin America (excl. Suriname, Aruba and Antilles)	**-75**	**-57**	**-132**	**-135**	**-111**	**-246**
Caribbean	-196	-125	-321	-363	-251	-614
Brazil, Argentina, Paraguay, Uruguay, Chile and Fr. Guy.	-6	-28	-34	1	-51	-50
Central America and South America Other	-68	-50	-118	-124	-97	-221

5 Net contribution and integration of the 2nd generation

By Jan van de Beek

5.1 Introduction

This chapter discusses the net contribution of the second generation. Statistics Netherlands[202] defines a "person with a second-generation immigration background" as someone "who was born in the Netherlands and of whom at least one parent was born abroad". To determine the immigration background – that is, the region of origin – we look at "the country of birth of the mother, unless this is also the Netherlands. In that case, the immigration background is determined by the country of birth of the father." In addition, Statistics Netherlands makes "a distinction between persons with one or two parents born abroad."

In the CPB report *Immigration and the Dutch Economy* – of which the current report is an update and extension – it was assumed that in terms of integration, the non-Western second generation would be halfway between the non-Western first-generation immigrant and the 'average resident of the Netherlands'. In the current report, this idea has been taken a step further by not assuming the degree of integration, but calculating it on the basis of the available data. Calculation is better than assuming, but the results are nevertheless surrounded by uncertainties. An attempt has therefore been made to remain on the safe, optimistic side when estimating (see Box 5.1).

In the remaining sections of this chapter, the net contribution of individuals with a second-generation immigration background is first dealt with (§5.2). Subsequently, a comparison is made with first-generation immigrants with the same immigration background, i.e., from the same region of origin (§5.3). Subsequently, the difference in net contribution between people with one or two foreign-born parents is discussed (§5.4). The last section deals with the integration of the second generation (§5.5).

5.2 Net contribution of people with a 2nd generation immigration background

This section discusses the net contributions of Dutch residents with a second-generation immigration background. These net contributions are shown in Figure 5.1 for the division of the world into 42 regions of origin.[203] Persons with a second-generation immigration background were born in the Netherlands per Statistics Netherlands definition. The reference category is therefore a native Dutch person born in 2016 who is approximately 'budget neutral' over his or her life course with a net contribution of - €3,000.

For only a few of the 42 regions of origin does the second generation make a significant positive net contribution.[204] In practice, this concerns a dozen countries, mainly located in Northwest Europe and East Asia. For Switzerland[205], Scandinavia and China[206], the positive net contribution of the second generation is between €15,000 and €20,000. The highest net contributions of the second-generation groups distinguished here are those of the Japanese (+ €95,000) with a second-generation immigration

[202] Statistics Netherlands, *Begrippen*, retrieved 15-12-2020 from: https://www.cbs.nl/nl-nl/onze-diensten/methoden/begrippen/migratieachtergrond

[203] For the figures at the level of the 19-part division and a selection of the 42-part division, see Table 5.1.

[204] In addition, there are two regions – France and North America – for which the average net contribution of persons with a second-generation immigration background is around zero.

[205] These are the EFTA region, dwarf states and crown dependencies, including Liechtenstein.

[206] This concerns the region of China, Mongolia and North Korea, but in practice mainly China.

background. For the 'Asian tigers'[207] (South Korea, Taiwan, Hong Kong and Singapore) the net contribution is 'budget neutral'. For Israel and France, the integration for the second generation has been estimated at 95% and although those groups are doing relatively 'well', there are already net costs of around €30,000 per individual with a second-generation immigration background.

For the vast majority of the regions of origin, however, people with a second-generation immigration background make a negative net contribution over the life course. For the former Yugoslavia, Aruba and the (former) Antilles, Suriname, Pakistan, Turkey and West and North Africa, the net costs are roughly €200,000 to €300,000 per person. Negative outliers are West Africa (- €390,000), the Caribbean (- €435,000), the region of Horn of Africa and Sudan (- €460,000) and Morocco (- €480,000).

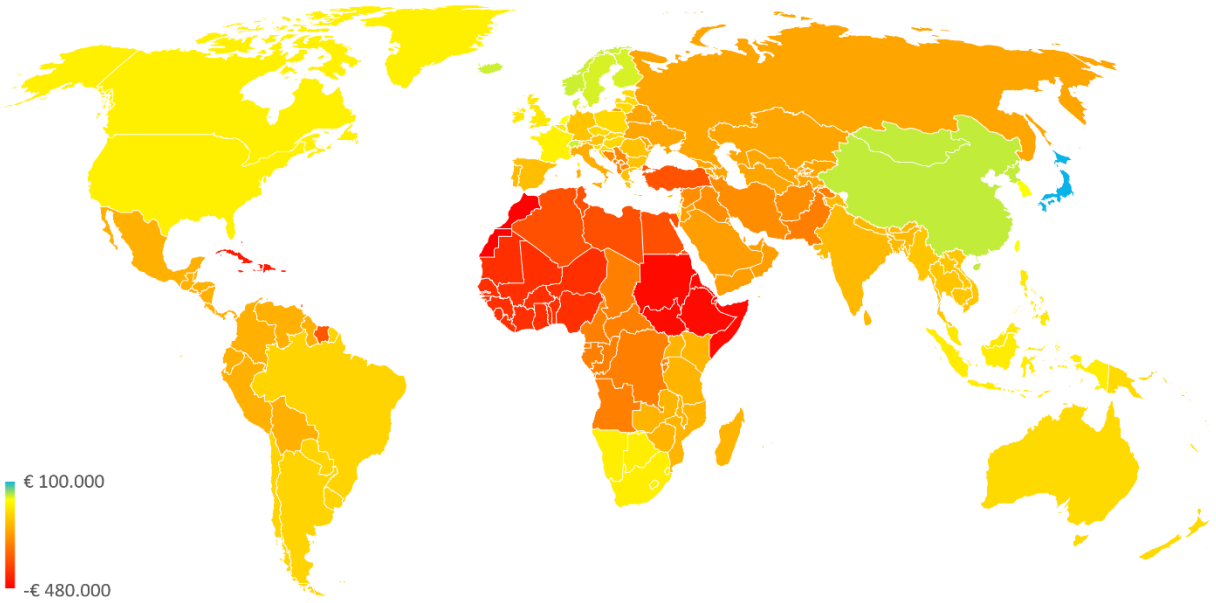


Figure 5.1 Net contribution of people with a second-generation immigration background for 42 regions of origin, with permanent settlement (no remigration). Source: Our own calculation based on Statistics Netherlands StatLine and Statistics Netherlands microdata.

5.3 1st vs. 2nd generation: it won't automatically be fine with the next generation

In this section, the net contribution of the first and second generation is compared. By its very nature, there is an important difference between the first and second generations. The first generation is predominantly of adulthood, and therefore government spending on things like youth care and education is relatively low for this group on average. For all persons belonging to the second generation, these costs are paid in full by the government. As shown in §5.2, this means that few second-generation groups make a large positive net contribution, because this requires that people perform (much) better than the native Dutch people in terms of education and the labour market.

In addition, there is a certain asymmetry with regard to the net contribution of the first and second generations. The children of first-generation immigrants with a positive or very high net contribution – with a few exceptions, see §5.2 – themselves have no net contribution that deviates significantly

[207] It should be noted that the Japanese are a relatively small group, which is out of necessity classified separately from the East Asia region because of the existing Statistics Netherlands classifications (Japan is both Western and Asian).

from the net contribution of a native Dutch person born in 2016 (see Figure 5.2). Conversely, children of immigrants with a large negative net contribution often also make a significant negative net contribution themselves.

In general, there is an asymmetry, which consists in the fact that a high positive net contribution from the parents usually only has a limited effect on the net contribution of the children, while a significant negative net contribution from the parents is often associated with a significant negative net contribution of the children.

The following tentative explanation can be given for the observed asymmetry. Immigration should ideally lead to a substantial positive net contribution for the first generation due to the savings in education costs. The condition is that immigrants have (labour market) characteristics that are at least as good as those of the native Dutch people. In that case, their children – provided they are integrated – often resemble the native Dutch people in terms of labour market performance and their net contribution will be approximately 'budget neutral', just as with the native Dutch population.

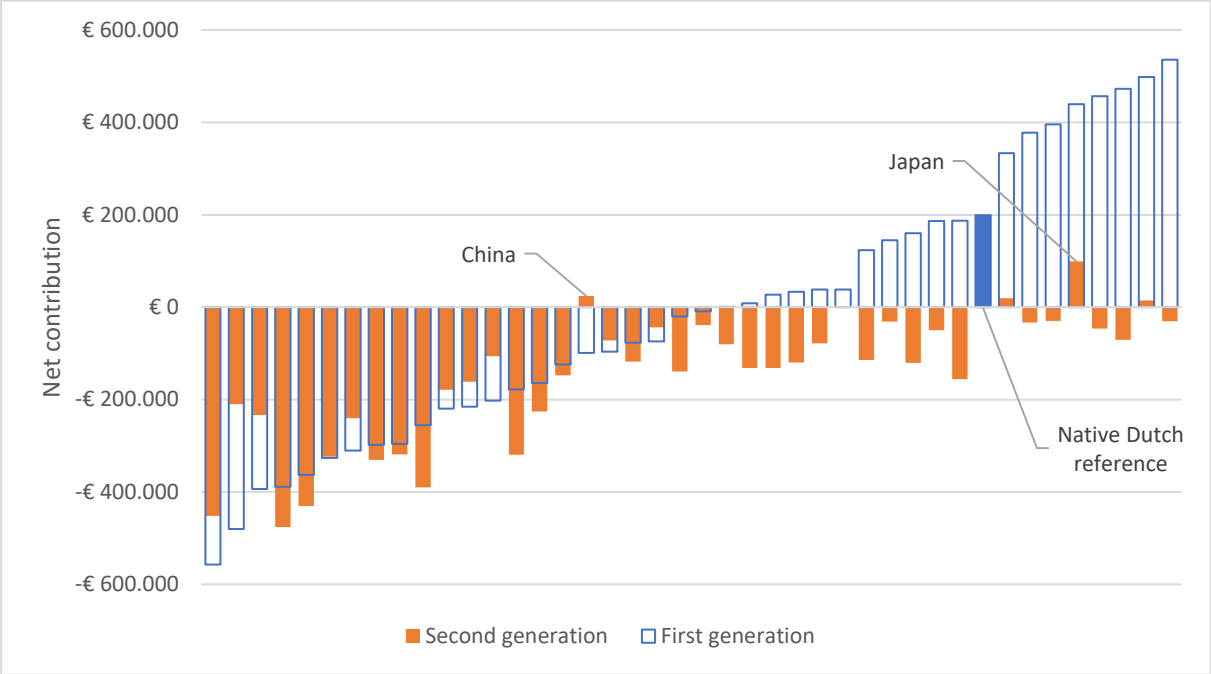


Figure 5.2 Net contribution of people with a first-generation (empty blue bars) and second-generation (solid orange bars) immigration background for 42 regions of origin. The solid blue bar shows the net contribution for the Dutch native reference, a hypothetical immigrant with the immigration behaviour and pension accrual of the average first-generation immigrant and otherwise the characteristics of the average native Dutch person.[208] *Source: Our own calculation based on Statistics Netherlands StatLine and Statistics Netherlands microdata.*

However, if the immigrants make a (substantial) negative contribution, they often have (labour market) characteristics that are (much) less favourable than those of the native Dutch people. After all, despite the savings in their training costs, they do not make the substantial positive net contribution that one might expect on the basis of these savings. Those less favourable characteristics usually have

[208] Not clearly visible in the figure is the very small net contribution of the 'second-generation native Dutch reference', i.e., a hypothetical person with the return immigration behaviour of the average resident with a second-generation immigration background and otherwise the characteristics of the average native Dutch person.

an effect on the second generation. Only for origin China[209] is the net contribution negative for the first generation and positive for the second generation. However, this is a notorious exception: first generation Chinese immigrants had a low level of education and income, but their children have very high Cito scores and therefore exhibit good school and labour market performance leading to a high net contribution (see also Chapter 9).

The adage 'the next generations will be fine' does not apply: if immigration has a significant negative budgetary effect in the first generation, subsequent generations will rarely make up for those costs in practice. For groups for which the first generation makes a (substantial) positive net contribution due to the savings on education, etc., the profit for the treasury is in the first generation. Subsequent generations, if properly integrated, will usually be roughly 'budget neutral', just like native Dutch people. For groups for which the first generation makes a (substantial) negative net contribution, this can usually be traced back to a low level of education and income. The chance that the second and subsequent generations will compensate for this is nil. Education and labour market performance will also generally be mediocre for the second generation – with a few exceptions such as China. And even if the second generation integrates well, they, like the average native Dutch person, only make a small negative or positive net contribution.[210] Therefore, it 'will not be fine with subsequent generations'. If policymakers want immigrants to make a positive net contribution, the first generation will have to be selected carefully for a high probability of a substantial positive net contribution. As will become clear in Chapter 9, the level of education is a good selection criterion. ↲

5.4 Net contribution of 2nd generation: One vs. two parents born abroad

Among the second generation, there are significant differences in net contribution between people with one or two foreign-born parents, which can amount to a quarter of a million euros per person. Figure 5.3 shows that persons with one parent with a Dutch background and one parent with an immigration background make on average a greater positive or less negative net contribution than persons with two parents born abroad. This difference is considerable for some groups and greatest for Latin America (approximately €210,000) and Aruba and the (former) Antilles (approximately €270,000). On the other hand, the difference is very small for Asia (approximately €20,000) and Turkey (approximately €25,000). The differences are also relatively small for the European Union and the region Other outside Europe.

None of the 22 second-generation groups shown in Figure 5.3 made a positive net contribution. The least negative net contribution comes from Indonesians (mostly Indo-Dutch) with one parent with a Dutch background (- €25,000). Note that all second-generation groups in this geographical division make a (much) lower net contribution than native Dutch people born in 2016 (- €3,000). ↲

Various explanations are conceivable for the observed differences. A possible explanation could be (self) selection, for example because higher educated people with an immigration background more

[209] This concerns the region of China, Mongolia and North Korea, but in practice mainly China.
[210] This is even more true when discounting, as this reduces the relative weight of any positive net contributions from future generations.

often enter into a mixed relationship.[211] [212] An indication of this is that children from mixed relationships almost always have higher Cito scores than children with two parents born abroad. Cito scores are very decisive for the level of the highest degree achieved. Cito scores are also strongly related to income, labour participation, benefit use and many other indicators and are therefore very decisive for the net contribution over the life course.

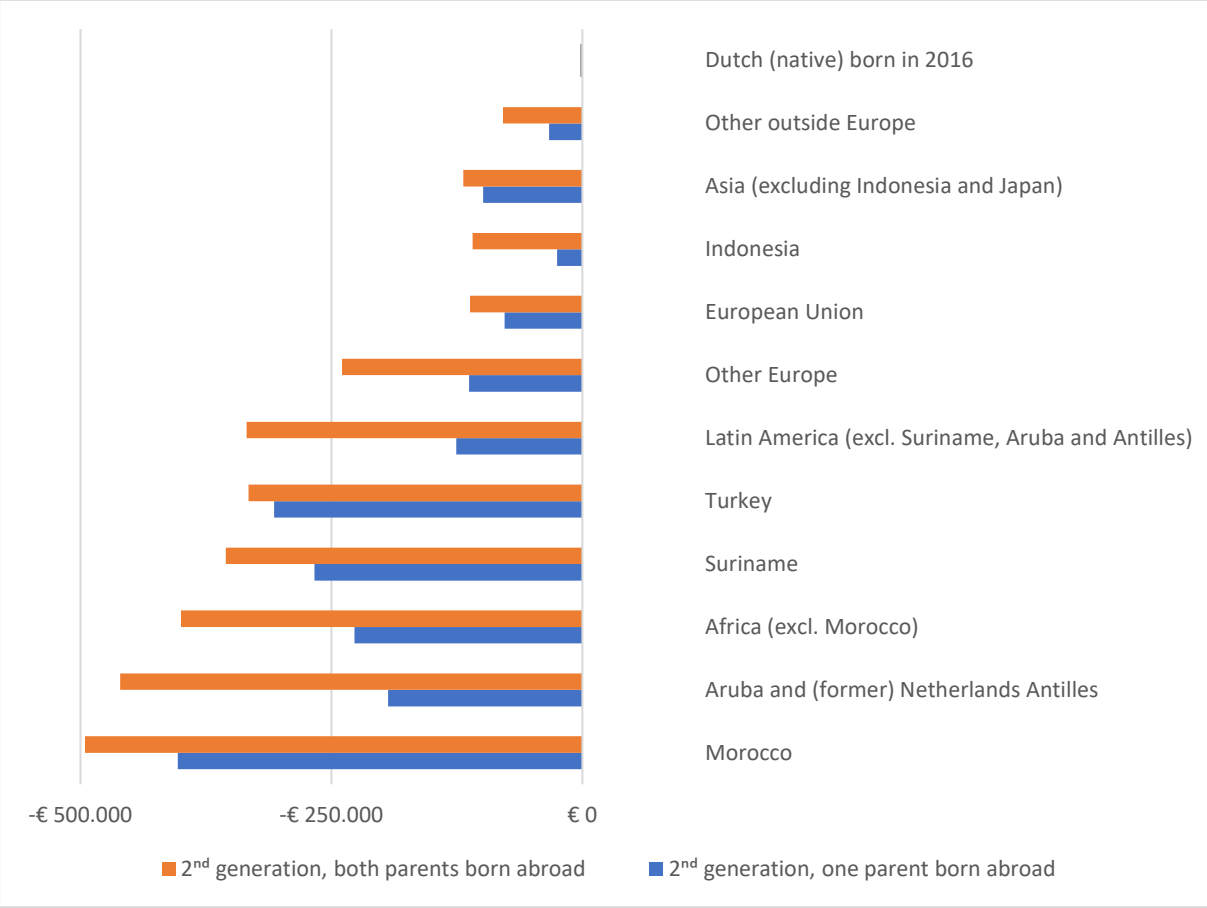


Figure 5.3 Net contribution of people with a second-generation immigration background, by origin group and number of parents born abroad for 11 regions of origin. The net contribution of a native Dutch person born in 2016 is shown with a grey bar (difficult to see in the figure due to the small amount). Source: Our own calculation based on Statistics Netherlands StatLine and Statistics Netherlands microdata.

However, the aforementioned higher Cito scores of children with one parent born in the Netherlands may also be traced back to parent-related characteristics that are favourable for good school performance and Cito scores. An indication for this is that the positive effect on the Cito scores of one parent born in the Netherlands is greater for groups of origin with a low average Cito score and smaller or nil for groups with a Cito score equal to or higher than the Cito score of the native Dutch population (see Chapter 9). Which parent-related properties may be of influence should be further investigated.

[211] For certain origin groups, it is the case that, for example, people with a secondary and/or higher education level (compared with a lower educated) more often choose a partner with a Dutch background and/or a second-generation background (compared to a first-generation background), Wachter, G., & de Valk, H. A. G. (2018)
[212] There are also other indications, for example a correlation between the educational level of an immigrant parent and the acceptance of his or her child's choice for a native Dutch partner, Huijnk, W., Dagevos, J., Gijsberts, M., & Andriessen, I. (2015), pg. 98

One factor that could influence these potential explanations is that parents born in the Netherlands can have a Dutch background as well as an immigrant background. This is partly related to the extent to which people in the Netherlands look for a partner within their own group or enter into a 'mixed relationship' with a native Dutch person. There are significant differences (see Figure 5.4) between, for example, Antilleans (relatively many mixed relationships) and Turks (relatively few mixed relationships). This could explain why in Figure 5.3 the difference between one or two parents born abroad is much greater for Antilleans than for Turks. In the first group, the parent born in the Netherlands is much more likely to be native Dutch, which may have a greater positive effect on the Cito scores than a parent born in the Netherlands with a second-generation immigration background. This matter will be further explained in Chapter 9, which deals with education level and Cito score.

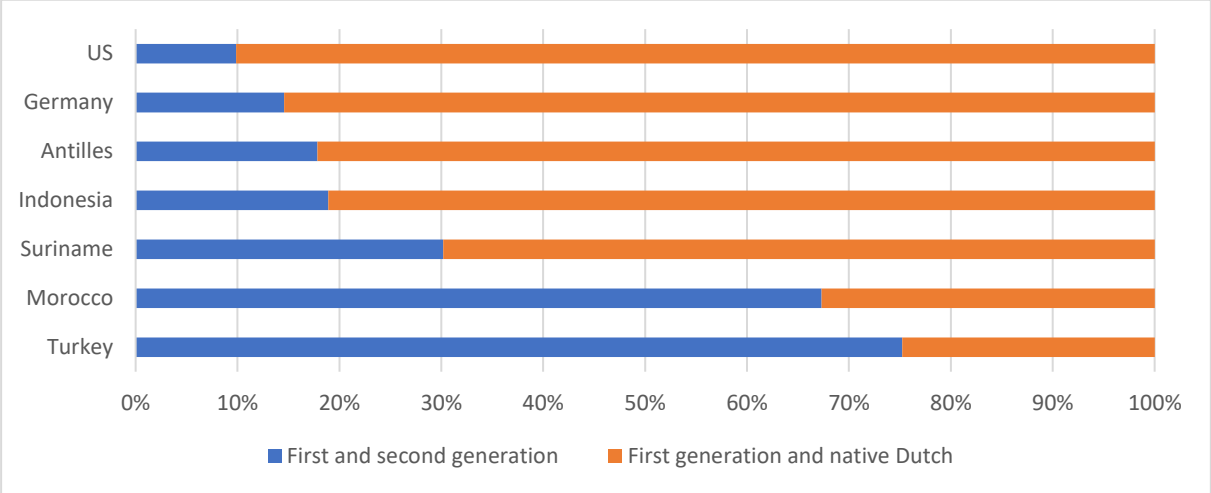


Figure 5.4 Partner choice for couples with one partner born abroad (first generation) and one partner born in the Netherlands; relative share of 'first and second generation' couples versus 'first generation and native Dutch' couples. Source: Our own calculation based on Statistics Netherlands StatLine.

5.5 Integration of the 2nd generation

In the CPB report *Immigration and the Dutch Economy* from 2003[213], when calculating the budgetary effects of immigration, it was assumed that people with a second-generation non-Western immigration background had bridged half the difference in labour market performance with the 'average resident of the Netherlands'. In the present study, this idea has been extended to 41 origin regions and the degree of integration is not based on an assumption, but calculated for each group on the basis of available data.

The degree of integration was initially calculated on the basis of the available data on the observed net contribution per age year of second-generation people up to approximately 50 years old. For most age years, these appear to be strongly related to the second generation Cito scores, as observed over the period 2006-2018. This data was used in part to estimate the net contribution for the second half of life.[214] This is because school and labour market performance over the first half of life are very decisive for career progression over the remaining life course.[215]

[213] Roodenburg, H., R. Euwals & H. ter Rele (2003)
[214] See the Technical Appendix for details.
[215] See the Technical Appendix for details.

The degree of integration of the second generation is shown in Table 5.1 in the column 'socio-economic integration'. In this table, 100% integration equals 'fully integrated'. The net contribution is then approximately equal to that of native Dutch citizens. Following the CPB study from 2003, the group of first-generation non-Western immigrants was taken as the reference group[216] for 'not integrated', or 0% integrated. Table 5.1 shows the main groups of origin and a number of groups of which the second generation is remarkably well (more than 95%) or poorly (less than 15%) integrated.[217] It can be seen that there are big differences between the different regions and countries.

For only a limited number of countries and regions, the second generation is as well or better integrated than the native Dutch. This mainly concerns the Scandinavian countries and Switzerland (110%) and some East Asian countries, notably Japan (128%), China (115%) and the Asian tigers (South Korea, Hong Kong, Taiwan and Singapore, 104%). Furthermore, France, North America and Israel stand out (all 95%).

For a number of countries and regions, the second generation is remarkably poorly integrated according to the measure used here. Four regions and countries of origin even score below 25%: West Africa (13%), the Caribbean (5%), the Horn of Africa and Sudan region (0%) and Morocco (-4%). The latter is particularly striking because Morocco is one of the four major 'classical' non-Western countries of origin and that is why there has been a reasonably large second-generation group for almost half a century. That says a lot about the persistence of the disadvantage of the (by definition) Dutch-born second-generation immigrants on the native Dutch. There is progression for the Moroccan second generation with respect to the Moroccan first generation[218], but not with regard to the non-Western first generation as a whole.

The integration measure presented here is policy-relevant. This integration measure is about more than, for example, labour market performance and benefit use. As explained in more detail in Chapter 9, the net contribution, Cito scores and the integration measure based on them show a strong mutual relationship. Cito scores are associated with numerous indicators of socio-economic integration in areas as diverse as crime, healthcare, education, social security and even cultural indicators. Cito scores also correlate between generations and are extraordinarily closely related to the level of education. This means that the educational level of the parents can be used as a predictor for the labour market success and the integration success of their children and even grandchildren. The fact that there are such large group differences in the degree of integration and that there are indicators to predict the degree of integration is very relevant for both integration policy and admission policy.

[216] With some adjustments; among other things, the first generation by definition does not need Dutch birth care, while the second generation does. That is why healthcare costs and child benefits for young children have been equated with native Dutch people.

[217] More precisely: all origin groups broken down into the 19-part division (see the Glossary and Technical Appendix), supplemented by all groups from the 42-part division that are more than 95% integrated and all groups that are less than 15% integrated.

[218] When compared with first generation 0-year-olds, without remigration, for which the net costs per individual are €555,000.

Table 5.1 Number of children of first-generation immigrants, per woman and the proportion of them classified as second generation, without and with remigration (left). Estimated degree of integration of the second generation (middle). Net contribution of the second generation, per individual and effectively (i.e. as the result of the immigration of 1 single first generation immigrant) without and with remigration (right). Selected countries and regions. Source: Our own calculation based on Statistics Netherlands StatLine and Statistics Netherlands microdata.

	Number of children first generation			Second generation			
		of which gen. 2			Net contribution (x €1,000)		
Group	per vrouw	without remigration	with remigration	social-economic integration	per individual	without remigration	with remigration
Native Dutch reference	**1.65**	**1.08**	**0.63**	**100%**	**-3**	**-1**	**-3**
All immigrants	**1.71**	**1.12**	**0.66**	**45%**	**-249**	**-140**	**-72**
Western	**1.41**	**0.93**	**0.50**	**81%**	**-84**	**-39**	**-19**
European Union	**1.40**	**0.94**	**0.50**	**83%**	**-84**	**-39**	**-19**
Western Europe	1.47	1.05	0.53	81%	-85	-44	-21
France	1.55	1.17	0.60	95%	-30	-17	-9
Northern Europe	1.52	0.92	0.46	95%	-36	-17	-8
Scandinavia[1]	1.50	1.08	0.53	110%	14	8	2
GIPS countries	1.37	0.96	0.50	70%	-134	-64	-30
CEE countries	1.56	1.03	0.58	85%	-84	-43	-23
Other Europe	**1.48**	**0.97**	**0.62**	**64%**	**-177**	**-86**	**-49**
EFTA[3]	1.52	1.13	0.71	110%	19	11	4
Former Yugoslavia	1.48	0.92	0.59	53%	-226	-104	-59
Former Soviet Union	1.58	1.04	0.66	68%	-162	-84	-48
Other outside Europe	**1.41**	**0.91**	**0.42**	**92%**	**-37**	**-17**	**-8**
North America	1.51	1.00	0.45	95%	-30	-15	-7
Oceania	1.56	1.11	0.52	82%	-71	-39	-17
Japan	1.39	0.75	0.36	128%	99	37	14
Indonesia	1.42	0.78	0.46	92%	-39	-15	-9
Non-Western	**2.00**	**1.30**	**0.82**	**31%**	**-321**	**-208**	**-114**
Turkey	**2.15**	**1.37**	**0.99**	**27%**	**-324**	**-223**	**-142**
Morocco	**2.83**	**1.75**	**1.32**	**-4%**	**-476**	**-417**	**-281**
Africa[4]	**2.73**	**1.84**	**1.11**	**27%**	**-322**	**-297**	**-151**
North Africa	2.83	1.63	1.06	26%	-331	-270	-149
Sub-Sahara Africa	3.35	2.29	1.37	27%	-319	-366	-185
West Africa	3.29	2.02	1.22	13%	-390	-394	-198
Horn of Africa	3.54	2.58	1.52	0%	-452	-583	-291
Asia[6]	**1.73**	**1.18**	**0.75**	**77%**	**-112**	**-66**	**-38**
East Asia	1.68	1.23	0.68	111%	16	10	3
China[7]	1.72	1.29	0.71	115%	24	16	5
Asian tigers[8]	1.54	1.06	0.59	104%	1	1	-1
Southeast Asia	1.85	1.25	0.80	83%	-82	-51	-31
Indian subcont.	1.97	1.30	0.74	67%	-171	-111	-55
West Asia	2.23	1.49	1.03	62%	-184	-137	-84
Israel	2.17	1.55	1.08	95%	-31	-24	-19
Suriname	**1.61**	**0.75**	**0.52**	**32%**	**-319**	**-119**	**-72**
Aruba and (former) Antilles	**1.64**	**1.08**	**0.61**	**35%**	**-319**	**-173**	**-85**
Latin America[2]	**1.94**	**1.24**	**0.72**	**61%**	**-180**	**-111**	**-57**
Caribbean	2.03	1.16	0.68	5%	-431	-251	-125

[1]Denmark, Sweden and Finland [2]Excl. Former Antilles and Suriname. [3]Incl. dwarf states and crown dependencies [4]Excl. Morocco. [5] Mainly South Africa, [6]Excl. Indonesia and Japan. [7]Incl. Mongolia and North Korea [8]South Korea, Taiwan, Hong Kong and Singapore

It is perfectly clear that this report contains normatively controversial knowledge. In that respect, it is an extension of my dissertation (Van de Beek, JH, 2010) that deals with the production of knowledge about the economic effects of immigration, with the difference being that I am now in the role of executive researcher who is working on a cost and benefit calculation. This has caused me a lot of headaches in this chapter.

In the CPB report *Immigration and the Dutch Economy* from 2003 it was assumed that the non-Western second generation would be halfway between the non-Western first generation and the native Dutch in terms of integration. Apparently, there was insufficient data for a calculation at the time. There is now more data for the first half of life and especially for the first 35 years of age. On the basis of that data, as the researcher of the current research report, I wanted to take the analysis a step further than the CPB did in 2003, namely not to assume the degree of integration, but to calculate it on the basis of the available data.

Calculating the net contribution of the second generation is more certain than assuming, but at the same time it is also more uncertain than the calculations for the first generation. For the first generation, more data are available. There is often little data for the second generation from about the age of 36. From the age of 48 there is not even data for all groups. In addition, there are so-called cohort effects: people with a second-generation immigration background who were born in the 1960s and 1970s often have higher net contributions than later cohorts. This is often due to a transition from limited elite immigration to more massive and less selective immigration. Including data from about the 44th year of age probably gives too rosy a picture because of these cohort effects.

To minimize this uncertainty, I have developed to the best of my knowledge and conscience four methods to estimate the degree of integration. I focused on the young second generation, because in view of chapters 6 and 7 I wanted to make the best possible estimate for the children of immigrants who immigrated or will immigrate in the period 1995-2040. Based on the average of these four methods, I calculated the net contribution of the second generation.

The first two methods use data up to age of 56 and are most likely too optimistic due to cohort effects. The first of these methods partly filters out cohort effects and is therefore on average lower than the second method, which is almost certainly too optimistic. The third method filters out cohort effects in a different way, using only data up to the age of 48. This method gives lower estimates, which are probably also too optimistic for the target group: the children born in the Netherlands of immigrants who immigrated or will immigrate in the period 1995-2040.

The fourth method estimates the degree of integration by extrapolation from the observed net contributions of the second generation up to age 42. This method provides up to 10 percentage points lower estimates of the integration of the least integrated groups than the estimate used for the current report. However, of the four methods used, the fourth is the most directly linked to the target group. If the fourth method is limited to the first 35 years of age – which is in any case justifiable given the availability of data – the integration estimate is on average a maximum of 15 percentage points lower for the least integrated groups. Using the fourth method the other way around, using all the data for the first 48 years of age, then one comes close to the estimate used for the current report, while demonstrably positive cohort effects are counted for many groups (for more information, see the Technical Appendix).

Because of the aforementioned uncertainties, I wanted to be on the safe side: I'd rather be too optimistic than too pessimistic. In itself that is a good starting point, but at a certain point I caught myself wanting to stay too 'on the safe side'. I let myself be influenced too heavily by the realization that the results of the current report will be put under a magnifying glass, for example by people who reject this type of research and the resulting findings in advance for normative reasons. Initially, therefore, I had only used the first three methods, even though I was convinced that this would not be 'on the safe side', but would be downright optimistic. That is why I finally decided to include the fourth method for a quarter in the calculation. The effect per percentage point of integration on the total amount for remigration is approximately €1,000 on average and a maximum of €2,000 for the groups with the lowest integration. Assuming the range of most likely outcomes is between the first and fourth methods, the amounts could be €6,000 higher or €20,000 lower.

Jan van de Beek

Box 5.1 Jan van de Beek's reflective comments on the estimation of the net contribution of the 2nd generation.

6 Net contribution of 1st and 2nd generation together

By Jan van de Beek, §6.5 by Jan van de Beek, Hans Roodenburg and Joop Hartog

6.1 Introduction

In the previous chapter, for a number of origin groups, the net contributions per individual were given for people with a second-generation immigration background. However, for the calculations in the rest of this report, all costs and benefits of the second generation have been allocated to the first generation. With regard to admission policy, this is the most policy-relevant approach. After all, the admission policy primarily concerns immigrants – that is, people with a first-generation immigration background – and the second generation is by definition born in the Netherlands. If a first-generation immigrant is admitted to the country – whether or not accompanied by his or her first-generation children – then the net contribution of any second-generation children born in the Netherlands is therefore a consequence of that policy decision.

When calculating the total net contribution for the first and second generation together, it is not possible simply to add up the amounts of the first and second generation. For many origin groups, this would lead to a considerable underestimation or overestimation of the net contribution. The present study therefore takes into account remigration, fertility and the fact that some of the children are born in the country of origin and therefore do not belong to the second, but to the first generation.

Differences in fertility also play a role. The number of children per woman (second column, Table 5.1) for women with a first-generation immigration background has been estimated on the basis of figures from Statistics Netherlands and the UN. However, this number of children could not be used without some adjustment. First, the number of children was halved, in order to convert the number of children per woman into the number of children per immigrant. Subsequently, the (first-generation) children born abroad must be subtracted in order to obtain the average number of second-generation children born in the Netherlands (third column, Table 5.1).[219]

For the scenarios with remigration, the probability of remigration of both the first and the second generation must also be taken into account. The probabilities of remigration in this study are based on data from 1995 and immigration has become increasingly dynamic. For example, many young first-generation immigrants leave the Netherlands before they reach childbearing age. In addition, some members of the second generation also remigrate. In the present study it is assumed that children born in the Netherlands go with their parents if they remigrate before the age of 18 and that they stay in the Netherlands if their parents remigrate after they have turned 18.

For the children who remigrate, only the net costs for the years of residence in the Netherlands are included in the calculation. The net costs of children whose parents did not remigrate at all are fully included. Even if the parents did not remigrate until after the child was 18 or older, all net costs for the child are included in the calculation. All these effects have been taken into account for the scenarios with remigration (fourth column, Table 5.1).

All this means that only part of the net contribution of an individual with a second-generation immigration background is allocated to the first generation (sixth to eighth column, Table 5.1). In the case

[219] For the sake of simplicity, it is assumed that halving the number of children per woman will yield the number of children per immigrant (men and women together). See further the Technical Appendix.

of remigration, this is on average only about a third, but the differences between groups are considerable in this respect due to large differences in probabilities of remigration.

6.2 Net contribution of 1st plus 2nd generation for 42 regions of origin with remigration

This section discusses the results of the costs and benefits for the first and second generation together, i.e., for first generation immigrants and their children. The sum of the net contribution of the first and second generation can be done in different ways. If one assumes permanent settlement of the first generation, then remigration hardly plays a role for the second generation. However, if remigration[220] is taken into account in the first generation, then this must also be done for the second generation. This section presents the case where the remigration of both the first and the second generation has been taken into account, in the manner set out in §6.1.

An important comment must be made with regard to remigration. For immigrants who work in the Netherlands – certainly those with a lot of earning capacity – it is likely that there are good perspectives when leaving the Netherlands. On the other hand, for immigrants who receive benefits in the Netherlands – certainly those with little earning capacity – there is a reasonable chance that they will actually be worse off if they leave. As explained in §2.2, such self-selection on benefit dependence is indeed likely. Likewise, it is not inconceivable that the probability of remigration of first-generation immigrants with school-age children born in the Netherlands are lower than the probability of remigration of childless first-generation immigrants. Such self-selection can affect the net contribution. However, further analysis of this issue is beyond the scope of this report.

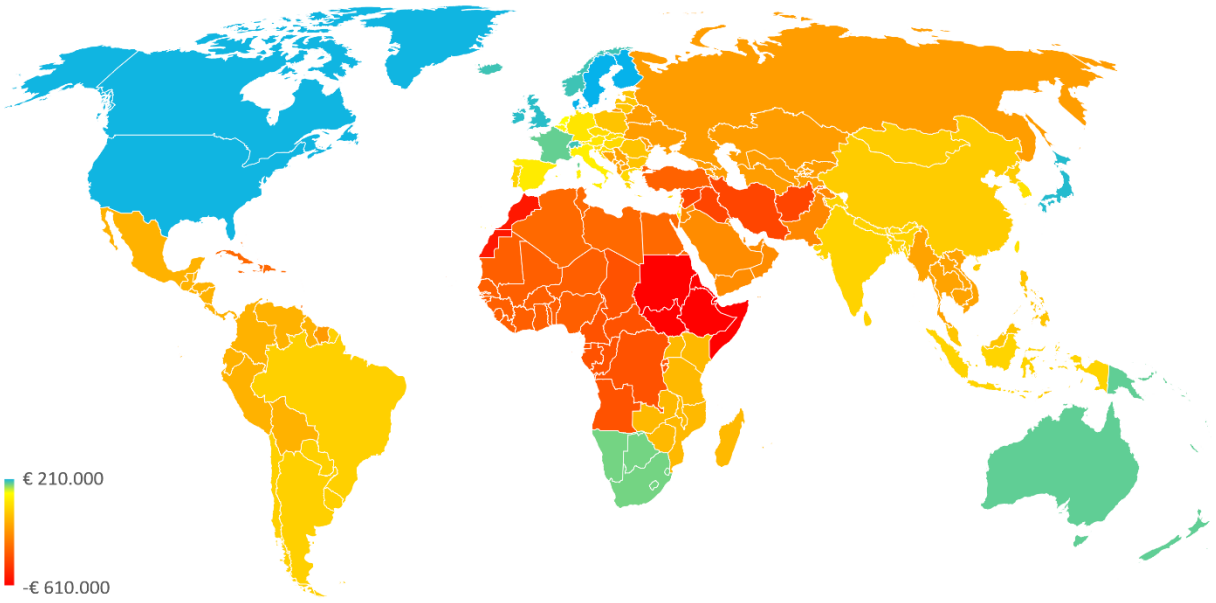


Figure 6.1 Net contribution of first-generation immigrants and their children for 42 regions of origin, with remigration. Source: Our own calculation based on Statistics Netherlands StatLine and microdata.

The results for the total net contribution of the first and second generation are shown in Figure 6.1 and also in Table 4.3 (column 'With remigration, Total'). For Japan, North America, Scandinavia and

[220] Remigration refers to departure to the country of origin or another country.

the British Isles, Scandinavia has the largest net positive contributions, amounting to around €200,000 per person.

Large negative net contributions were found for the Caribbean, Turkey and North, Central and West Africa with amounts over €300,000. The net costs for the asylum origin region of Afghanistan, Iran, Syria and Iraq are almost €400,000 and for Morocco more than €500,000. The asylum origin region of Horn of Africa and Sudan tops the list with net costs of almost €600,000.

Broadly speaking, Western immigrants make a positive net contribution and non-Western immigrants a negative one. There are, however, a number of exceptions. Closer inspection of Table 4.3 reveals that, in addition to the Southern Africa region, there are two as yet unmentioned non-Western regions whose immigrants make a positive contribution. First, the Asian tigers (South Korea, Taiwan, Hong Kong and Singapore) with about + €15,000. In addition, immigrants from Israel with a net contribution of approximately + €60,000 also stand out in a positive way.

Among the Western regions not yet mentioned, immigrants from the asylum origin regions of the former Yugoslavia and the former Soviet Union stand out with a negative net contribution of about €150,000. For Bulgaria, Romania, Poland and the Baltic states, a negative contribution of approximately - €70,000 applies. On the other hand, for Hungary, the Czech Republic, Slovakia, Slovenia and Croatia, the net contribution is just below zero. One possible explanation for the difference is elite immigration of refugees from former Czechoslovakia (1968)[221], but this should be further investigated. Finally, a modest negative net contribution also applies to Portugal and the region of Greece and Cyprus.

6.3 Net contribution of 1st plus 2nd generation for 42 regions, permanent settlement

In this section, the net contribution is given for first-generation immigrants and their children in case of permanent settlement, in other words, if there is no remigration. In practice, immigration always involves remigration. Nevertheless, it is important to also know the budgetary effect of immigration for permanent settlement. Knowledge of the effect of remigration is, for example, relevant to policy in the question of whether the aim should be to allow highly qualified knowledge immigrants to reside temporarily or permanently.

In addition, self-selection regarding the net contribution may also play a role in remigration. For example, the probability of remigration is much higher for the average high-performing labour immigrants than for the poorly performing asylum immigrants. It is also conceivable (see §2.2) that negative self-selection occurs with regard to benefit dependency, in the sense that people from a particular origin group without benefits remigrate more often than people with benefits.

In Figure 6.2 and also in Table 4.3 (column 'Without remigration, Total') the net contributions for the first and second generation are jointly given in case there is no remigration. The analysis without remigration is therefore limited to the question of what net contributions immigrants and their children make in the event of permanent settlement. This world map is very similar to the one in Figure 6.1, except that all amounts – both positive and negative – are much larger in absolute terms, with a range between half a million euros positive for North America and over one million euros negative for the

[221] A further breakdown shows that immigrants (1st and 2nd generation together) with a Hungarian immigration background make a negative net contribution.

Horn of Africa and Sudan. The difference between remigration and no remigration can amount to about €300,000 for positive amounts and €500,000 for negative amounts. In addition, both the positive and negative amounts increase (in absolute terms) if there is no remigration. Remigration thus dampens the fiscal effect of immigration, for both positive and negative amounts.

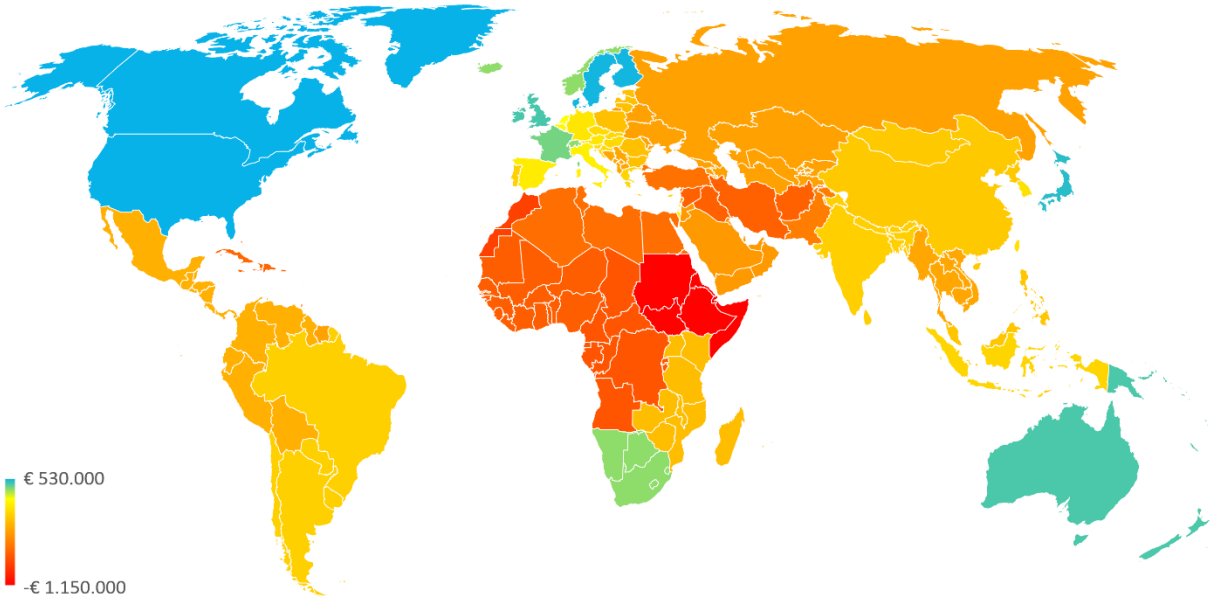


Figure 6.2 Net contribution of first-generation immigrants and their children for 42 regions of origin with permanent settlement (i.e., without remigration). Source: Our own calculation based on Statistics Netherlands StatLine and Statistics Netherlands microdata.

6.4 Net contribution of 1st (from 1995) plus 2nd generation by motive and region

This section discusses the costs and benefits of immigration by motive and region for the first and second generation together. In addition, the analysis in §4.6 is refined by a further breakdown by the 12-part division into world regions and the costs for the second generation are included. Of course, the second generation itself has no immigration motive and the motive is therefore derived from the immigration motive of the parents.

As stated previously (§4.6), the immigration motive for the first generation[222] relates to data from 1995 onwards, so there is no direct effect of guest labour or immigration related to decolonization. Guest workers were often selected to perform unskilled labour in often moribund industries. Many of those industries were eventually restructured or relocated to low-wage countries, leaving the guest workers massively unemployed. Not long after the recruitment policy was discontinued, the Netherlands ended up in a deep economic crisis. Because that crisis also more or less coincided with the fairly massive immigration from Suriname around the Surinamese independence, that immigration also started under an unfortunate economic spirit. These developments have had a negative impact on the labour market position of the groups mentioned. However, the results described here relate for the first generation to persons who immigrated from 1995, i.e., at least 10 years after the economic recession in the early eighties.

[222] This is in contrast to the calculation for the second generation, which includes data on children of immigrants who immigrated before 1995 and children of immigrants who immigrated from 1995 onwards.

Table 6.1 Net contribution (x €1000) by region of origin, immigration motive and generation, with remigration (for the first generation: only immigration from 1995). Source: Our own calculation based on CBS microdata.

	Labour			Study		
	Gen. 1	**Gen. 2**	**Gen. 1 & 2**	**Gen. 1**	**Gen. 2**	**Gen. 1 & 2**
Total	**153**	**-33**	**120**	**-34**	**-52**	**-86**
Westerns	**161**	**-11**	**150**	**9**	**-14**	**-5**
European Union	141	-12	129	75	-10	65
Indonesia	21	-6	15	-37	-6	-43
Other outside Europe	624	-2	623	11	0	11
Other Europe	98	-31	67	-35	-47	-82
Non-Western	**90**	**-60**	**30**	**-74**	**-82**	**-156**
Africa	51	-92	-41	-113	-112	-226
Asia	127	-19	108	-49	-20	-69
Latin America	173	-38	136	-44	-57	-101
Morocco	-140	-135	-274	-111	-231	-342
Suriname	-42	-58	-100	-79	-108	-186
Turkey	21	-68	-47	-14	-134	-147

	Family			Other		
	Gen. 1	**Gen. 2**	**Gen. 1 & 2**	**Gen. 1**	**Gen. 2**	**Gen. 1 & 2**
Total	**-182**	**-96**	**-279**	**-120**	**-62**	**-182**
Western	**-103**	**-24**	**-127**	**-67**	**-26**	**-92**
European Union	-71	-26	-96	-15	-20	-35
Indonesia	-148	-9	-157	-78	-6	-84
Other outside Europe	-40	-5	-45	73	-12	61
Other Europe	-183	-53	-237	-177	-45	-222
Non-Western	**-263**	**-149**	**-411**	**-232**	**-99**	**-331**
Africa	-260	-185	-446	-266	-196	-462
Asia	-250	-43	-293	-210	-37	-247
Latin America	-181	-62	-243	-142	-72	-214
Morocco	-318	-339	-656	-237	-169	-405
Suriname	-229	-127	-357	-169	-59	-228
Turkey	-276	-188	-464	-213	-89	-301

	Unknown (from 1995)			Asylum		
	Gen. 1	**Gen. 2**	**Gen. 1 & 2**	**Gen. 1**	**Gen. 2**	**Gen. 1 & 2**
Total	**-138**	**-76**	**-215**	**-392**	**-84**	**-475**
Western	**-26**	**-30**	**-56**	**-251**	**-49**	**-299**
European Union	-35	-34	-69	-251	-49	-299
Indonesia	-45	-6	-51			
Other outside Europe	135	-13	122			
Other Europe	-99	-48	-148	-251	-49	-299
Non-Western	**-188**	**-101**	**-288**	**-433**	**-110**	**-543**
Africa	-169	-129	-298	-422	-215	-637
Asia	-119	-34	-152	-439	-107	-546
Latin America	-174	-80	-253	-405	-90	-495
Morocco	-244	-175	-419	-405	-90	-495
Suriname	-184	-56	-240			
Turkey	-204	-76	-280	-405	-90	-495
(Former) Antilles	-229	-88	-317			
Non-Western other				-405	-90	-495
West Asia				-442	-108	-550

The results are given in Table 6.1 for the generations separately and in Figure 6.3 for the total for the first and second generation together. For the overview, the net contributions for other motives and unknown motives have been combined in Figure 6.3. All net contributions mentioned in the rest of this section are for the first and second generations together.

The group size is small for some groups. For Aruba and the (former) Dutch Antilles (net contribution - €320,000[223]), there is only sufficient data for immigrants with unknown motives. The numbers for the asylum motive are also small for most regions of origin. Therefore, the same net contribution is reported for asylum seekers from Morocco, Turkey and Latin America (- €495,000).[224]

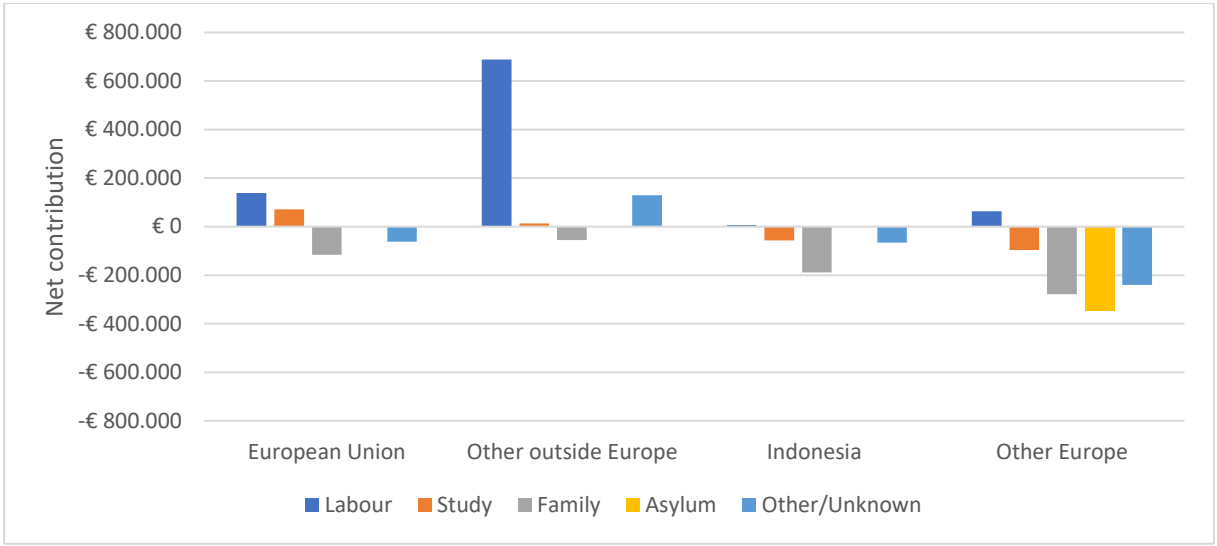
Immigration from the European Union is included as a reference in all three graphs in Figure 6.3. From a policy point of view, under the current free movement of labour, immigration within the EU is not a policy choice, but rather an effect of market forces and the like. If we disregard asylum immigration, then there are more policy options for immigration from outside the EU to influence the influx. That is why intra-EU immigration has been taken as a reference here on which to base policy choices with regard to the other regions. For the sake of readability, the amounts are rounded, the exact amounts can be found in Table 6.1.

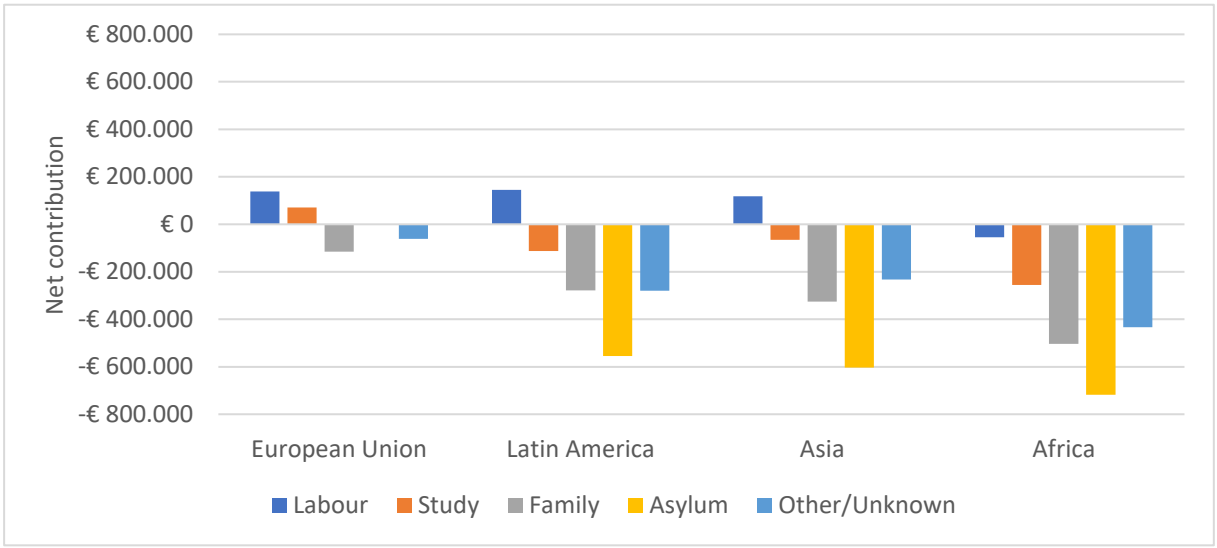
Immigrants from the European Union make a positive fiscal contribution of + €130,000 and + €65,000 respectively for labour and study immigration. For EU family immigration, there is a negative net contribution of €100,000. EU immigrants with other motives (approximately - €35,000) and unknown motives (approximately - €70,000) also make a negative net contribution. Below, the information about the other regions of origin in the three graphs in Figure 6.3 will be broadly compared with the European Union.

It can be seen (Figure 6.3 above) that of all groups, the labour immigrants from the region Other outside Europe (Japan, Oceania, Canada and the US) make by far the largest contribution to the treasury of all the groups distinguished here, with more than €600,000 positive. Immigrants from the Other Europe region make the smallest net contribution of the four groups in Figure 6.3 (above), which is only positive for labour immigrants (+ €70,000). The rest of Europe is a very diverse region, with prosperous countries such as Norway and Switzerland, as well as typical asylum regions such as the former Yugoslavia and the former Soviet Union. Western asylum seekers make a net contribution of - €300,000, the largest negative amount for the four Western groups distinguished here.

For the 'non-Western' (parts of) continents (see Figure 6.3 centre), labour immigrants from Latin America make a positive net contribution that, at €135,000, is slightly higher than that of labour immigrants from the European Union. At €110,000, the fiscal contribution for labour immigrants from Asia is slightly smaller than for immigrants from the EU. It should be borne in mind here that labour immigration often goes hand in hand with family immigration, which is on average very expensive with a net cost of approximately €250,000 - €300,000 for Latin America and Asia and €450,000 for Africa.

[223] NB: this section refers to immigration from 1995 and thus this amount differs from the amount in Table 4.3.
[224] The numbers are also relatively small for a few other combinations of motive and origin, but these results are presented. This applies in particular to labour migration from Suriname and Indonesia and to immigration with other motives from Indonesia. For more details see the Technical Appendix.





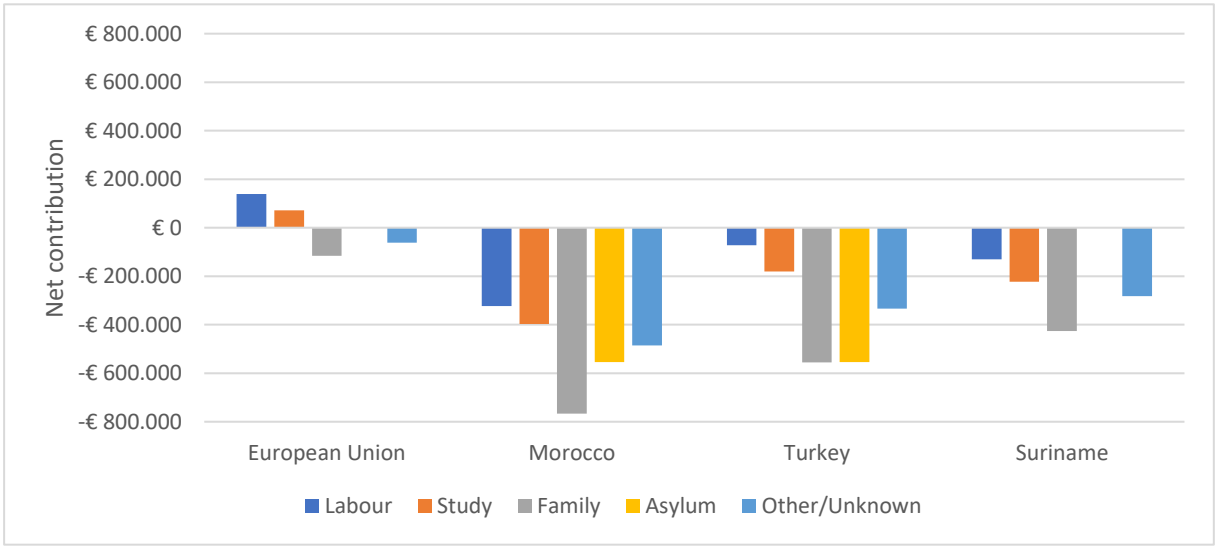


Figure 6.3 Net contribution of first-generation immigrants and their children, by immigration motive and region of origin; immigration from the European Union and three clusters of regions of origin are compared. Source: Our own calculation based on Statistics Netherlands StatLine and Statistics Netherlands microdata.

Labour immigrants from Africa make a negative net contribution of - €40,000. Although there is a positive balance over the life course for the first generation of labour immigrants from Africa, this is offset by higher net costs associated with the second generation. Study immigrants from Asia and Latin America make a negative net contribution. Study immigrants from Africa even make a substantial negative net contribution of more than €200,000. For the motives other and unknown, the net costs for Asia, Africa and Latin America are high, with amounts of roughly - €200,000 to - €400,000. The net costs are greatest for the asylum motive: over €500,000 for Asia and €600,000 for Africa. This means that the net costs of asylum immigration from Africa are the highest of all groups distinguished here.

For the 'classic' non-Western countries of origin Turkey, Morocco and Suriname, the net contributions for each motive are well below the corresponding values for immigration from the European Union (see Figure 6.3 below). Immigrants from these countries make a negative net contribution for all motives – including labour immigration.

For labour immigrants with a Turkish background, there is a modest positive net contribution for the first generation (€20,000), which is relatively high compared to, for example, first-generation family immigrants from Turkey, who show a substantial negative contribution of almost €300,000. A possible explanation is that family immigration is more related to the original guest labour that was negatively selected on human capital as education etc., while the current Turkish study and labour immigration is more positively selected on human capital. An indication for Turkish labour immigrants is that the people in their thirties have a higher net contribution than the people in their 40s and 50s, which indicates a cohort effect. However, this should be further investigated. If so, the net contribution of Turkish immigrant workers could be higher in the future. For the time being, the current Turkish first and second-generation labour immigrants together make a negative net contribution of approximately - €45,000.

For Moroccan labour immigrants, this involves an amount of approximately - €275,000 for the first and second generation combined. It is striking that for Moroccan labour immigrants the first generation also makes a significant negative contribution. This is remarkable because the calculation for the first generation is based on immigration from 1995 onwards, so that no direct effect of guest work is included in the calculation. Among Surinamese labour immigrants, too, the first generation makes a (smaller) negative net contribution, while for this group too, immigration from 1995 onwards can hardly have been influenced by the earlier immigration movements after Surinamese independence. In addition, the net contribution of Turkish and Indonesian labour immigrants is also relatively low.

Probably a factor in this is that the immigration motive identified by Statistics Netherlands as the main motive – and which has also been used for the current study – has not always been the actual immigration motive. The extent to which this is the case could have a negative effect on the net contribution of labour immigrants, because immigrants with other motives make a lower net contribution on average. An indication of this is the benefit use of study and labour immigrants. Table 6.2 shows the number of benefit recipients per 100 working people after 2, 5 of 10 years of residence. These are

immigrants who were between 20 and 40 years old at the time of immigration, so pension benefits do not yet play a role and disability should normally also play a minor role.[225]

Table 6.2 Number of benefit recipients per 100 working people for immigrants by region of origin and immigration motive, after 2, 5 or 10 years of residence. The immigrants immigrated in the period 1999-2014 and were between the ages of 20 and 40 at the time of immigration. Groups with a total of less than 100 observations are underlined. Source: Statistics Netherlands StatLine.

	Study			Labour		
Region	2 years	5 years	10 years	2 years	5 years	10 years
North America	0	0	0	0	0	0
Oceania	0	0	0	0	0	0
South Africa	0	0	0	0	0	0
EFTA (Switzerland and Norway only)	0	0	0	1	0	0
Denmark, Sweden and Finland	0	0	0	1	0	0
Japan, South Korea and Taiwan	0	1	0	0	0	0
Indonesia, Philippines and Thailand	0	3	9	0	0	0
India	1	1	0	1	2	4
China	9	7	9	5	7	7
CEE countries	0	3	7	6	8	8
Belgium, France, Germany and Austria	2	2	5	2	6	9
United Kingdom and Ireland	4	0	0	2	4	10
Greece, Italy, Portugal and Spain	0	2	0	3	7	13
Brazil	0	3	11	1	5	14
Other (Latin) America	7	7	16	7	12	16
Egypt	6	12	25	3	10	22
Suriname	10	13	16	10	28	27
Turkey	8	11	29	9	15	30
Pakistan	7	21	26	15	19	32
Ghana and Nigeria	20	32	48	8	19	33
Other Asia	28	27	24	10	22	34
Morocco	10	25	29	18	35	48
Former Soviet Union (excl. Baltic States)	19	30	41	15	35	50
Former Yugoslavia (excl. Slovenia and Croatia)	21	25	34	15	25	52
Other Africa	58	45	64	33	46	59
Afghanistan, Iran, Syria and Iraq	149	91	78	81	97	82
Eritrea, Ethiopia, Sudan and Somalia	290	211	109	88	146	133

For immigrants with a immigration background in an EU/EFTA country, the migration motive is based on the derived migration goal determined by CBS (based on the actual behaviour of the immigrant in the period after arrival). For immigrants with a immigration background in a non-EU/EFTA country, the

[225] In the CBS StatLine table used, the values are rounded off to multiples of 5. This may cause rounding errors. In all cases, the total number of observations for the relevant combination of duration of stay, region of origin and migration motive is at least 100 and/or the number of benefit recipients is equal to 0. CBS-statline, *Immigranten; migratiereden, sociaaleconomische categorie, 1999-2016*, retrieved 12-12-2022 from: https://opendata.cbs.nl/statline/#/CBS/nl/dataset/84140NED/table?dl=634FD

migration motive is obtained from the Immigration and Naturalisation Service (IND) and based on the first residence permit granted (immigrants sometimes immigrate and remigrate several times).[226]

The registration of the immigration motive by the Immigration and Naturalisation Service IND often does not reflect the actual behaviour of immigrants and the benefit dependency among registered study and labour immigrants from countries such as Africa and the Middle East is improbably high. It would be expected that immigrant workers work relatively often during their stay and make relatively little use of benefits. After all, they have come to work. This is indeed the case for labour migrants from many Western regions of origin and also, for example, South Africa and South Korea. However, for many countries in Africa and the Middle East, as well as for instance Surinam, the former Yugoslavia and the former Soviet Union, the number of benefit recipients per 100 workers after 10 years of residence is 30, 50 or even more. This obviously lowers the average net contribution of labour immigrants from the relevant regions. It is clear that a large part of the labour immigrants who, according to the IND statistics, arrived with work as their main motive, ultimately receive benefits. In view of these sometimes staggeringly high numbers, the question arises whether some of these immigrants classified as labour immigrants ever had the sincere intention to participate in the labour process for a long time during their stay in the Netherlands. Something similar applies to study migrants. In the light of the welfare magnet hypothesis (§2.2 and §2.3), this question is certainly worth further investigation. This is a very policy-relevant issue, because adequate testing, selection and registration of the various immigration motives is crucial for a de facto immigration country such as the Netherlands. ↲

Table 6.3 Net contribution (x €1,000) for first-generation immigrants and their children by origin and motive, with remigration. For a number of groups there is not enough data for a calculation, these fields have been left empty. The calculation for the first generation is based on data from 1995, with the exception of the calculation for all motives in the last column, which is based on all available data. (Former Antilles) includes Aruba. Source: Our own calculation based on Statistics Netherlands StatLine and Statistics Netherlands microdata.

	Labour	Study	Other	Unknown	Family	Asylum	All motives based on immigration from 1995	All motives based on all immigration
Other outside Europe	623	11	61	122	-45		267	195
European Union	129	65	-35	-69	-96		60	36
Indonesia	15	-43	-84	-51	-157		-68	-24
Latin America	136	-101	-214	-253	-243	-495	-131	-132
Other Europe	67	-82	-222	-148	-237	-299	-166	-136
Asia	108	-69	-247	-152	-293	-546	-222	-189
Suriname	-100	-186	-228	-240	-357		-261	-185
(Former) Antilles				-317			-289	-254
Africa	-41	-226	-462	-298	-446	-637	-346	-331
Turkey	-47	-147	-301	-280	-464	-495	-347	-340
Morocco	-274	-342	-405	-419	-656	-495	-543	-542
All regions	120	-86	-182	-215	-279	-475		

[226] CBS states in the table explanation of this Statline table (see previous footnote): "For immigrants from EU/EFTA countries, the reason for migration is based on the derived migration goals determined by CBS. For immigrants from non-EU/EFTA countries, the reason for migration is based on the migration motive given by the IND. The data in this table on immigrants from non-EU/EFTA countries are based on the first permit issued to the immigrant (which is the basis for the migration reason)." Compare also: CBS, Statistiek Migratiemotieven, retrieved 12-12-2020 from: https://www.cbs.nl/nl-nl/onze-diensten/methoden/onderzoeksomschrijvingen/korte-onderzoeksbeschrijvingen/statistiek-migratiemotieven

The results are conveniently summarized in Table 6.3. The results for this division into world regions are as follows. Labour immigration – viewed in isolation – is positive if the immigrants come from the West, Latin America or Asia (but not from West Asia and the CEE countries, as will be explained shortly). However, due to the high costs for family immigration, based on these results, a positive effect can only be expected from immigration from the EU and the region of origin Other outside Europe, which includes Japan, North America and Oceania. These are also the only two regions of origin that show a positive balance in Table 6.3 when all motives are included. Asylum immigration and family immigration are always very negative from a fiscal point of view. For immigration with other or unknown motives, also (often substantial) negative amounts apply, with the favourable exception of immigration from the region of origin Other outside Europe.

Finally, Table 6.3 shows that significant changes have taken place over time. Because the immigration motive is only updated from 1995, all calculations with regard to motive are based on data from 1995. The total net contribution based on the data from 1995 is shown in the penultimate column of Table 6.3. In the last column, the net contribution is given on the basis of all data (including the data in the years up to 1995). It can be seen that the net contribution of immigrants from the European Union and the region Other outside Europe is higher if one only considers recent immigration from 1995 onwards. For all other groups, however, the net contribution of recent immigrants has been lower since 1995.

The regional classification in Table 6.3 is taken from Statistics Netherlands and serves to make a forecast of the costs and benefits of immigration in the next chapter. For policy purposes, this classification may be too rough when it comes to regions where many immigrants come from. In Figure 6.4, Africa, Asia and the European Union are therefore further divided into sub-regions. Due to data limitations, this was only done for family and labour immigration.

Because labour immigration always goes hand in hand with family immigration, both are considered at the same time. Because chain migration in the form of family migration etc. often equals or exceeds the original immigration in size in the longer term, it is relevant for policy to compare the net contribution of family immigrants and labour immigrants. Suppose, for example, that policymakers take the fiscal contribution of immigrants as a starting point in their admission policy and expect one family immigrant per labour immigrant. In that scenario, a minimum condition for a positive fiscal effect overall would be that the fiscal benefits of one labour immigrant exceed at least the net costs of one family immigrant, if any. For an understandable argument, the remainder of this section uses this simple scenario of one family immigrant per labour immigrant.[227]

[227] This scenario obviously ignores many subtleties, such as possible differences between family migrants who join labour migrants and family migrants who join asylum migrants. The other motives also remain out of the picture. Furthermore, the probability of permanent residence is much higher for the lower educated (§9.12), which may influence the level of family migration. Furthermore, it is generally not easy to estimate the full migration per labour migrant, Jennissen, R. (2011). According to older CBS research, "it appears that between 1995 and 2001 there was an average of one subsequent migrant per labour migrant", Verschuren, S., Gaalen, R. V., & Nicolaas, H. (2011). More recent CBS research states: "For every 3.4 extra labour migrants ... one extra family migrant came to the Netherlands in the period 2001-2013. In addition, there is a strong correlation with partner demand", Van Duin, C., & Stoeldraijer, L. (2014). However, this document does not quantify the partner demand (family formation migration). A recent trend is that more and more labour migrants come with a partner (approximately one third) or with a partner and children (also approximately one third) and this trend probably leads to a higher number of family migrants per labour migrant, Hitzert, F. & van Wijk, M. (2019).

If one looks at Figure 6.4 with these eyes, then four categories can be distinguished. Only for the UK, Ireland, Denmark, Sweden and Finland region do both labour immigration and family immigration show a positive balance. That is the first category. The second category concerns immigration from Southern Africa and the UN region of Western Europe (Belgium, Luxembourg, France, Germany and Austria), where family immigrants make a negative net contribution, but labour immigrants make a (in an absolute sense) greater positive net contribution. For this category, a ratio of one family immigrant per labour immigrant would have an overall positive effect.

For East and Southeast Asia, the Indian subcontinent and the GIPS countries (Greece, Italy, Portugal and Spain), the net benefits of one labour immigrant are outweighed by the net costs of one family immigrant. For this category, there would be an overall negative fiscal effect for one family immigrant per labour immigrant.[228] This is the third category.

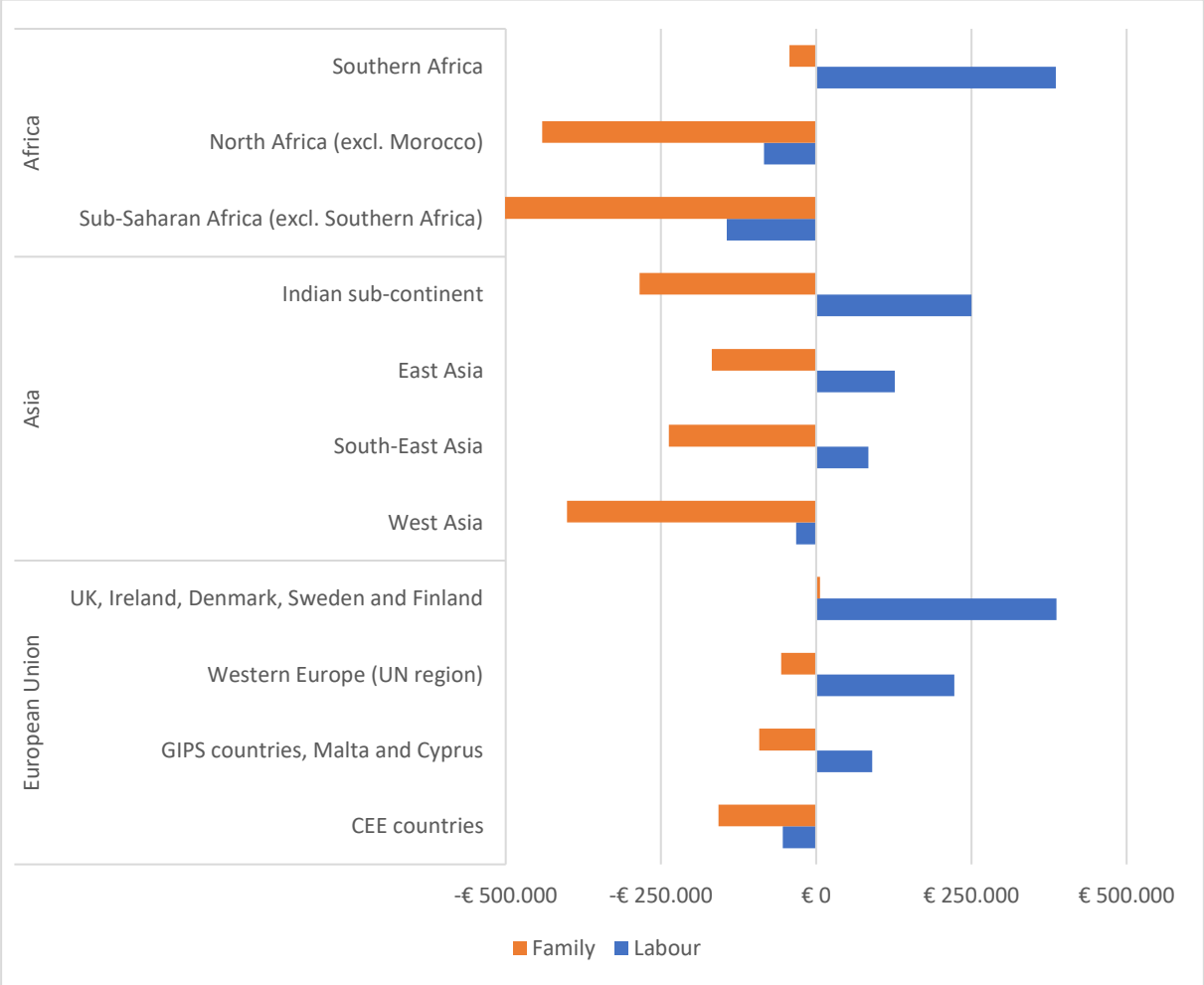


Figure 6.4 Net contribution by region of origin and immigration motive (labour and family immigration) for first-generation immigrants and their children. GIPS countries are: Greece, Italy, Portugal and Spain. In the current report this region also includes Malta and Cyprus. Source: Our own calculation based on Statistics Netherlands microdata.

[228] Whether this is actually the case depends on the relationship between the various immigration motives. In the GIPS countries, the number of family immigrants appears to be relatively small compared to the number of labour immigrants, so that the total of observed labour immigration and family immigration nevertheless produces a positive balance.

The fourth category consists of regions of Sub-Saharan Africa (excluding Southern Africa), North Africa, West Asia and the CEE countries where both labour and family immigration have a negative fiscal effect. Based on the results of this study, it seems impossible that recruiting labour immigrants from these regions, in the way we have done so far, can have an overall positive fiscal effect.[229]

If the data would allow further breakdown by region and motive, then, based on the total net contribution calculated over all motives (€180,000), there would almost certainly also be a credit balance for labour immigration from the EFTA countries (Switzerland, Norway, Iceland and Liechtenstein). The same is likely to be true for Italy, Spain, Israel, India, Singapore, Taiwan and South Korea.[230]

The opposite is true for immigration from the Southern Africa region. The data unambiguously shows a significant positive net contribution for this group. However, in this respect, results achieved in the past are by no means a guarantee for the future. First of all, this mainly concerns immigration from South Africa.[231] This probably rarely concerns the immigration of the once almost proverbial[232] 'South African nurses', but rather elite immigration. This group is notable for a high income, low benefit dependency and – as far as the children are concerned – high Cito scores. Many immigrants with a South African immigration background have younger or older Dutch roots and/or can learn the Dutch language relatively easily from the related Afrikaans. For the period 1995-2015, 4% of the immigrants with a South African immigration background belonged to the – by definition – second generation[233] born in the Netherlands, which indicates a previous residence of the family concerned in the Netherlands[234]. Immigration from South Africa is partly the result of the seizure of power by the ANC in 1994 and the subsequent (elite) immigration to countries such as Australia, the US and the Netherlands. This explains the high net contribution. On the other hand, if subsequent immigration is taken into account, non-selective recruitment of labour immigrants among the South African population as a whole would – given the much lower level of education – perhaps turn out more in terms of net contribution like the current immigration from East Africa (- €100,000) or West Africa (- €350,000). As will be seen in Chapter 9, only immigrants with higher vocational or university education – or comparable knowledge and skills – make a positive net contribution to the treasury.

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[229] Obviously, one can look beyond the fiscal effect and also consider other economic effects. It is possible, for example, that labour immigration from CEE countries will keep certain sectors such as greenhouse horticulture economically viable, although the question remains whether such a possible positive effect will be large enough to compensate for the negative fiscal effect. Conversely, it is also possible that cheap labour immigration has harmful effects such as inhibition of innovation, displacement of residents towards social security or (see also §2.4) negative external effects of population growth, such as increasing pollution and congestion. However, the determination of the said effects is beyond the scope of the present investigation.

[230] Listed are the countries and regions with, across all motives, a positive net contribution and a sample size for the first generation of at least 5000 persons. For a number of other countries (including the Czech Republic, Argentina and Malaysia), labour migrants (taking into account family immigration) may also have a positive net contribution, but this cannot be said with certainty due to small numbers, the impossibility of further breakdown by country level or negative net contributions after further breakdown by country level.

[231] See also the Glossary.

[232] Proverbial in the sense that 'South African nurses' once figured in Dutch debates on labour migration as a solution to labour shortages in the health sector.

[233] Statistics Netherlands StatLine, *Immi- en emigratie; per maand, migratieachtergrond, geslacht*, retrieved 15-12-2020 from: https://opendata.cbs.nl/statline/#/CBS/nl/dataset/83518NED/table?dl=4009E

[234] See for more details the Glossary.

If chain migration is taken into account, only labour immigration from North America, Oceania, the British Isles, Scandinavia, Belgium, Luxembourg, France, Germany, Austria, Switzerland, Italy, Spain, Israel, India, Singapore, Taiwan, South Korea and Japan are unequivocally positive. Study immigration from the EU and EFTA, taking subsequent immigration into account, is probably approximately budget neutral or slightly positive.[235] Labour immigration and study immigration from the rest of the world is at most budget neutral and usually negative, surprisingly often very negative, considering the motive given to the IND. Family migration and immigration with unknown or other motive also represents a (often substantial) drain on the treasury, with the exception of the region encompassing North America, Oceania and Japan. Asylum migration from all distinct regions has a net very high cost for the Dutch treasury. ↲

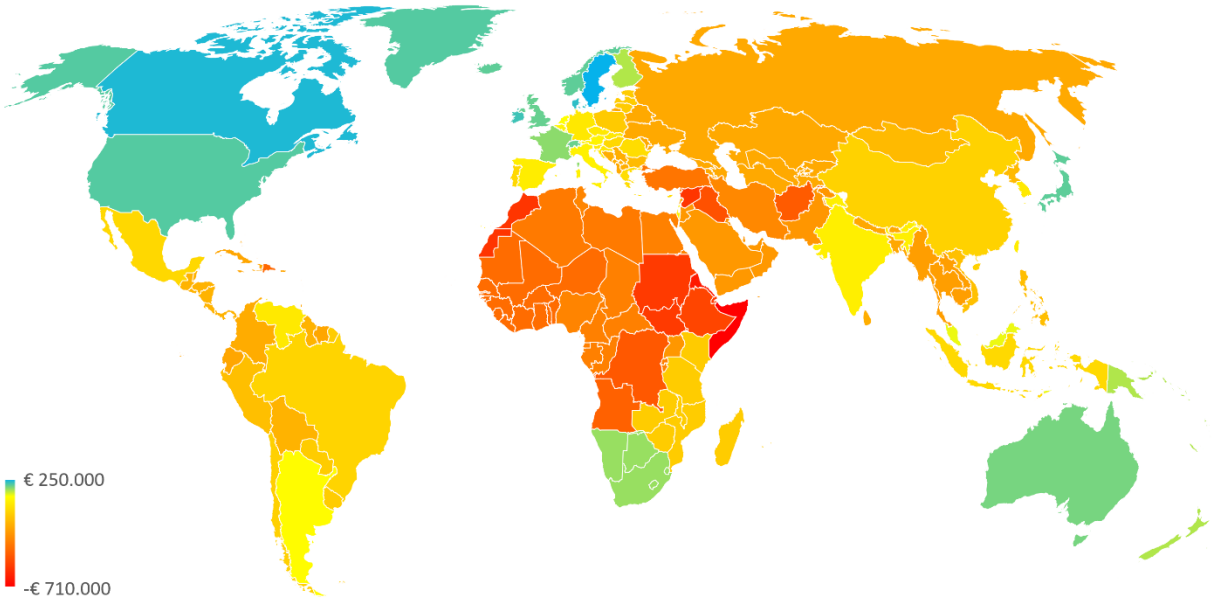


Figure 6.5 Net contribution of first-generation immigrants and their children for 87 regions of origin with remigration for all regions of origin. Yellow shades are around €0. Source: Our own calculation based on Statistics Netherlands StatLine and Statistics Netherlands microdata.

6.5 Net contribution of 1st plus 2nd generation: sensitivity analysis

By Jan van de Beek, Hans Roodenburg and Joop Hartog

The calculations presented in this chapter are sensitive to the assumptions made. This sensitivity has been made transparent by calculating several variants related to the discount rate, the state pension age and the allocation to residents of public goods such as defence and public administration (compare §4.2). For further details, see also the Technical Appendix.

This sensitivity was made clear by calculating two variants that relate to the discount rate and the state pension age respectively. In addition, the effect of the chosen regional classification is also

[235] For the EU, the costs of family migration exceed the benefits of study migration on average, but children born in the Netherlands of study migrants from the EU have on average a high Cito score (538.3). Children born in the Netherlands of immigrants (all motives together) from the EFTA region also have a high mean Cito score (538.9). High Cito scores are associated with high net contributions. Cito scores of the second generation are also correlated with the educational level of the first generation, so in the case of family migration it is therefore in line with the expectation that the partners of study migrants will be relatively highly educated.

investigated. Sufficient data is needed to create age profiles for the net contribution (as shown in Figure 4.3, for example). That is why countries of origin where few people come from have been combined into regions, except for a few cases where merging was undesirable.[236] However, the merger conceals the sometimes significant differences within regions. To gain more insight into differences within regions, the 42 regions have been further divided into 87 regions.[237] The results of this are given in Figure 6.5. Comparison with Figure 6.1 shows that this produces a more differentiated picture. It also becomes clear that merging into regions sometimes masks the (slightly) positive contributions of immigrants from a particular country. Examples are Argentina, India and Malaysia.

Then the effect of the so-called discounting. As is done, for example, with the calculation of the liabilities of pension funds, all amounts in the previous calculations have been 'discounted' by expressing them in euros of 2016. Following the CPB Netherlands Bureau for Economic Policy Analysis (CPB), this discounting was done at a discount rate of 2.5%. Discounting is useful in itself. By expressing all amounts in euros of 2016, different groups and situations are mutually comparable. This makes it easier for policymakers to choose between alternative policy options, the budgetary effects of which will largely take place in the future.

However, discounting also has an important policy-relevant side effect. By discounting, amounts are more reduced the further into the future they are. In particular, the amounts in the distant future – such as pensions and care for the elderly – will be greatly reduced. This reducing effect is stronger when the discount rate is higher and less strong when the discount rate is lower. For example, at a lower discount rate, the costs for old age will be heavier.

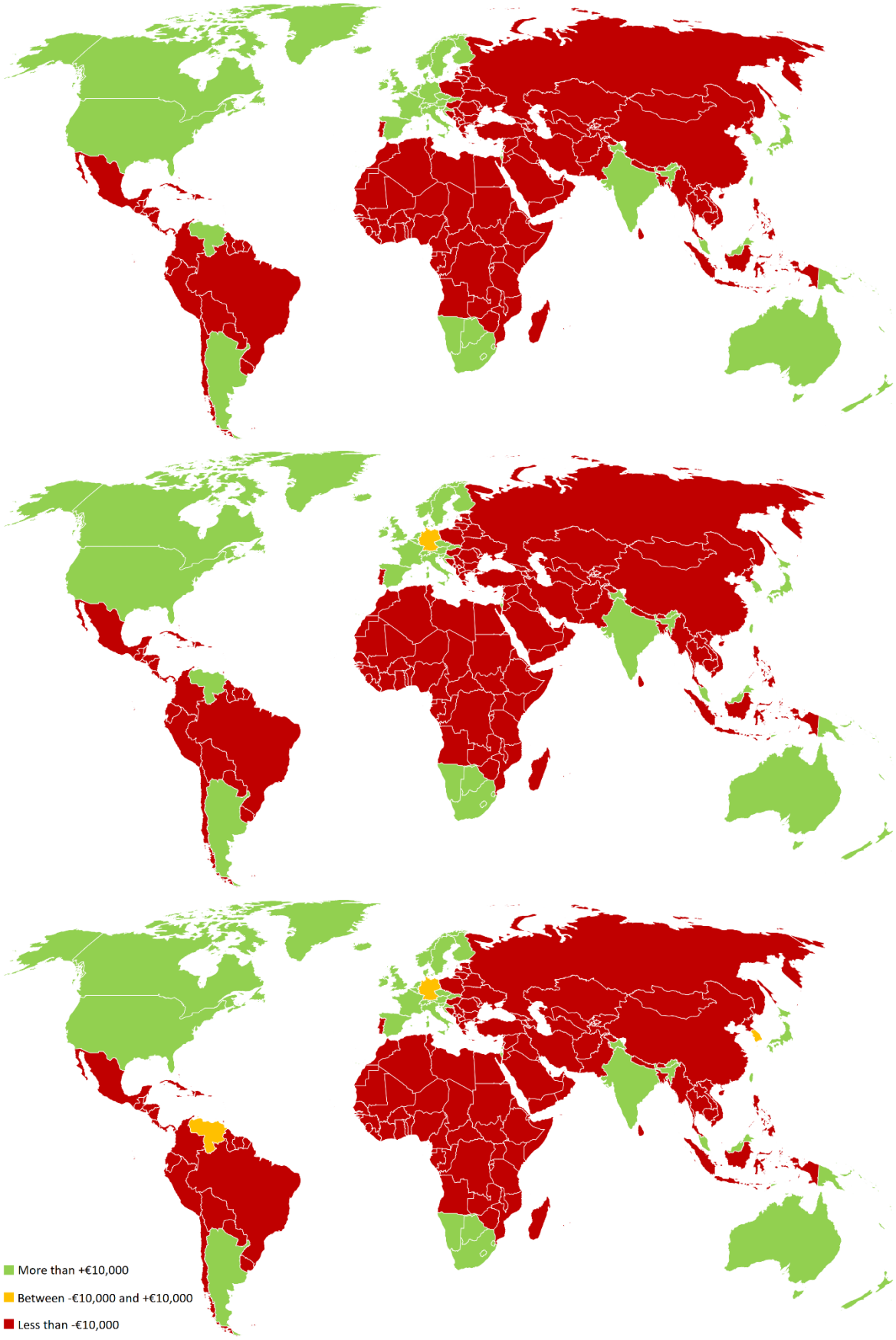
Those costs for retirement also depend in part on the state pension age. Raising the state pension age is a double-edged sword: if all other factors remain the same, the number of years one pays taxes for retirement benefits increases, while at the same time the number of years one is entitled to a state pension decreases. The current report assumes a retirement age that will be gradually increased to 70 years until 2060. Under these conditions, net contributions to the treasury are on average higher and the costs of aging are less burdensome than for the retirement age of 65, which has long been in force.

The aforementioned effects are shown in Figure 6.6. In this figure, a division has been made into 87 regions of origin. For each region, it is indicated whether the net contribution is higher than + €10,000 (green), lower than - €10,000 (red) or somewhere between - €10,000 and + €10,000 (orange).

The top world map in Figure 6.6 is based on the standard scenario[238]. It can be seen that immigrants from most Western countries – especially Japan, Oceania, North America, Scandinavia, Western Europe (with the exception of Portugal) and some Central European countries such as the Czech Republic, Slovakia and Slovenia make a positive (green) net contribution. A negative net contribution (red) applies to Greece, Cyprus and the other countries in Central and Eastern Europe, such as the Baltic States, Poland, Romania, Bulgaria, the former Yugoslavia and the former Soviet Union.

[236] In particular Japan (because of existing Statistics Netherlands classifications) and Israel (because of too large differences with surrounding countries of origin).
[237] This was done by making synthetic net contribution profiles, in which the data was supplemented, if necessary, from the profiles for the 42-part division, especially for the older ages. See also the Technical Appendix.
[238] This means on the basis of a discount rate of 2.5% and a gradual increase in the state pension age to 70 years.

Figure 6.6 Net contribution for first generation immigrants and their children for 87 regions of origin for the standard scenario (top), at a 1% lower discount rate (middle) and at a state pension age of 65 years (bottom). Source: Our own calculation based on Statistics Netherlands StatLine and Statistics Netherlands microdata.



Immigrants from most non-Western countries make a negative (red) net contribution. Here the exceptions are Venezuela and Argentina in Latin America, Southern Africa in Africa and Israel, India, Malaysia, and the Asian tigers (South Korea, Taiwan, Hong Kong, and Singapore) in Asia. Israel, Hong Kong and Singapore are hardly visible on the map. For a number of countries, such as Malaysia and Argentina, the positive contribution only becomes visible through the refinement of the regional classification.

The middle world map in Figure 6.6 is a variant of the standard scenario, with the understanding that the discount rate is 1% lower, so that the costs and benefits are heavier in the retirement age. As a result, Germany and (not visible on the map) Hong Kong here coloured yellow, which can be interpreted as a more or less neutral net contribution. Table 6.4 also shows the results for this scenario for the 42-part division into origin regions.

The bottom world map in Figure 6.6 is a variant of the standard scenario, with the understanding that the state pension age has been reset to 65, which of course increases the costs for the retirement age. In this scenario, in addition to Germany, Venezuela and South Korea also change from green (positive net contribution) to yellow (neutral net contribution). Also for this scenario, Table 6.4 shows the results for the 42-part division.

These world maps also show that the net contributions of immigrants for the vast majority of the regions of origin in the variants for discount rate and state pension age are stable positive or negative. Western regions of origin could be characterized as stable positive, with the exception of Indonesia, Portugal, Greece, Cyprus and most Central and Eastern European countries.[239] The non-Western countries could be described as stable negative, with the exception of Argentina, Southern Africa[240], Israel, India, Malaysia, Taiwan and Singapore.

Finally, two calculations were performed to test the sensitivity of the allocation of public goods. The current report attributes public goods equally to residents, following the 2014 CPB Ageing Study *Minder zorg om morgen* and a 2018 CPB dataset (see Chapter 8 of the Technical Appendix for details). In §4.2 it was explained that the current report differs in this respect from the methodology of the CPB report *Immigration and the Dutch Economy* from 2003 on which the current report builds. That CPB report allocates public goods to residents in proportion to their contribution to the gross domestic product. Column 4 of Table 6.4 presents a variant of the baseline scenario in which public goods are partially allocated to inhabitants on the basis of their contribution to GDP. Here, 'contribution to GDP' is operationalised as average personal primary income (PPI), the income people generate from their own work or business (see column 2 of Table 6.4). Furthermore, column 5 of Table 6.4 gives a variant in which public goods are higher.

[239] The countries Czech Republic, Slovakia, Slovenia and Croatia together form a positive exception; however, the data does not allow further breakdown and it is therefore not possible to say with certainty for which of these countries the immigrants make a positive net contribution. This may be related to the influx of refugees from the former Czechoslovakia (1968), but additional research is needed to be able to say something with certainty.

[240] For the Southern Africa region, in practice mainly South Africa, it should be noted that the positive net contribution is related to the specific circumstances of the brain drain that took place from the transfer of power to the ANC in 1994, see §6.4.

Table 6.4 Net contribution by region of origin for the 42 division, for 1st and 2nd generation together; sensitivity analysis with regard to state pension age, discount rate and weighting of public goods.

	PPI as % of native Dutch[3]	Base-line sce-nario	35% of Public goods weighted by PPI	Public goods 20% higher	State pen-sion at 65 years	1% lower discount rate
	%					
Max	144%	208	191	178	183	259
Min	24%	-606	-528	-665	-620	-849
Max - Min	**120%**	**814**	**719**	**843**	**803**	**1.108**
Horn of Africa and Sudan	24%	-606	-528	-665	-620	-849
Morocco	40%	-542	-482	-599	-558	-795
Afghanistan, Iran, Syria and Iraq	35%	-418	-357	-471	-435	-571
Central Africa	43%	-382	-325	-439	-402	-519
West Africa	50%	-348	-306	-397	-365	-499
Turkey	45%	-340	-294	-388	-354	-504
Caribbean	40%	-321	-283	-357	-332	-456
North Africa (excl. Morocco)	47%	-319	-276	-365	-333	-461
Aruba and (former) Netherlands Antilles	59%	-254	-229	-288	-265	-350
Pakistan	44%	-238	-201	-276	-250	-343
Arabian Peninsula, Jordan and Lebanon	63%	-224	-193	-272	-241	-322
Suriname	68%	-185	-166	-220	-200	-277
Former Soviet Union (excl. Baltic states)	58%	-177	-148	-217	-192	-270
Former Yugoslavia, Albania[1]	63%	-161	-136	-199	-176	-246
Thailand, Indochina and Myanmar	47%	-159	-121	-200	-176	-234
Central America and South America Other	59%	-118	-91	-156	-133	-180
East Africa	75%	-98	-77	-145	-120	-139
Poland and the Baltic states	59%	-71	-46	-105	-83	-114
Bulgaria and Romania	60%	-70	-48	-102	-82	-113
Philippines, Malaysia, Brunei and East Timor	58%	-66	-34	-109	-87	-106
China, Mongolia and North Korea	60%	-47	-21	-84	-66	-76
Brazil, Argentina, Paraguay, Uruguay, Chile[2]	74%	-34	-17	-72	-54	-62
Indian subcontinent excl. Pakistan	78%	-27	-13	-63	-41	-69
Portugal	78%	-27	-16	-56	-42	-63
Indonesia	65%	-24	-5	-55	-41	-45
Greece and Cyprus	79%	-13	-2	-43	-29	-50
Hungary, Czech Rep., Slovakia, Slov., Croatia	69%	-6	12	-39	-19	-25
South Korea, Taiwan, Hong Kong, Singapore	78%	14	27	-20	-7	-7
Germany and Austria	89%	23	29	-7	7	5
Spain	92%	39	43	8	20	18
Italy and Malta	99%	50	50	20	31	26
Israel	100%	58	58	8	35	66
Belgium and Luxemburg	97%	63	65	30	49	68
Native Dutch reference	**100%**	95	95	60	74	102
Southern Africa	117%	158	144	112	125	202
France	123%	165	152	132	143	192
Oceania	130%	166	151	137	147	200
EFTA, dwarf states and crown dependencies	108%	182	176	142	155	234
UK and Ireland	130%	191	177	164	169	224
Japan	121%	194	185	169	173	244
North America	144%	203	182	175	183	256
Denmark, Sweden and Finland	133%	208	191	178	182	259

[1]Excl. Slovenia, Croatia. [2]Incl. French Guiana.

The rationale behind both variants is as follows. Certain government expenditure is indeed, as stated in *Immigration and the Dutch Economy*, more related to the GDP than to the population. Think of obligations such as EU contributions and international agreements on development cooperation and defence, which are expressed as a percentage of GDP. However, this concerns only 18.5% of total expenditure on what in the current report is classified as 'public goods'. The remaining expenditure on public goods probably follows to a fairly large extent the development of the population. One can think of personnel costs for civil servants working in all kinds of executive services such as the tax department. Costs for civil servants' salaries are expected to largely keep pace with population size, as are investments in the government buildings where these civil servants are housed.

However, there are also costs that most likely increase more than proportionally with population growth. This is relevant because Dutch population growth is actually entirely migration-related (see §2.2). For example, in a densely populated country like the Netherlands, infrastructure costs might well be more than proportionally related to population size due to congestion phenomena. The same applies to costs incurred for nitrogen[241] and climate policy, insofar as they fall under the heading of 'public goods'. After all, as the population grows, achieving (reduction) targets requires a greater effort. Costs for nature, environmental and energy policy may also increase disproportionately with population size, as space becomes scarcer and population density increases. With population growth due to immigration, costs for policies with a redistribution component are also likely to increase disproportionately. Consider poverty reduction and all kinds of social support, insofar as they fall under 'public goods'. The reason is that poverty and low income are disproportionately common among immigrants in the Dutch case.

The literature also suggests that when allocating public goods costs to individuals, in addition to the possibility of economies of scale – a decrease in per capita costs with population growth – there is also the possibility of a disproportionate increase in these costs with population growth. Krieger and Meierrieks[242] summarise the literature on the relationship between government size and population size as follows:

> "Our discussion of the existing literature on the population-government size relationship can be summarized as follows. First, the theoretical effect of larger population size on government size is a priori unclear: the beneficial effects predicted to reduce government size (scale economies, reduced exposure to international aggression and markets) must be weighed against effects that may stimulate government size (costs due to congestion, heterogeneity, crime, corruption and domestic conflict). Second, the empirical evidence reflects this theoretical ambiguity, with some studies reporting a negative population-government size relationship … and others reporting positive or non-significant associations …".[243]

In their own contribution – which they say is based on improved econometric methodology – they find that "effects of population size that increase government size (mainly through the costs of heterogeneity, congestion, crime and conflict) dominate those that decrease government size (mainly through

[241] Dutch government policy – on which tens of billions of euros are spent – to reduce 'nitrogen deposition' from sources like traffic and farming https://www.government.nl/topics/nature-and-biodiversity/the-nitrogen-strategy-and-the-transformation-of-the-rural-areas
[242] Krieger, T. & D. Meierrieks (2019)
[243] Krieger, T. and D. Meierrieks (2019)

economies of scale)." Thus, the net effect is that costs increase disproportionately with population growth.

It would be going too far to estimate here the degree of dependence on GDP or population size for each item and the extent to which those relationships are (dis)proportionate. Instead, two calculation examples are given, which are not based on exact calculation, but are mainly illustrative in nature. The first example illustrates the possible outcomes if public goods are partly related to population size and partly to GDP. The second calculation example illustrates what happens if the costs for public goods increase more than proportionally with population size due to (large-scale) immigration.

The first calculation example (column 4 of Table 6.4) is based on the assumption that defence, development cooperation and the like are 100% GDP-related and the other items are 20% GDP-related on average. In these proportions, 35% of public goods costs are related to GDP and the rest to population size (for details see the Technical Appendix). In this variant, the positive contribution for North America goes down from €203,000 to €182,000 compared to the baseline scenario. The negative contribution for the region Horn of Africa and Sudan goes up from -€606,000 to -€528,000. This variant dampens group differences.

The second calculation example (column 5 of Table 6.4) is based on the assumption that public goods costs increase 20% across the board, due to an unspecified combination of all the potential effects of growing population density and size mentioned above (infrastructure and congestion costs, greater effort on environmental, climate, energy, nitrogen and CO_2 targets, costs of increasing heterogeneity, crime, corruption, internal conflict, costs of additional redistribution, integration and minority policies, etc.). In the resulting variant, the positive contribution for North America goes down from €203,000 to €175,000 compared to the baseline scenario. The negative contribution for Horn of Africa and Sudan goes down further from -€606,000 to -€665,000. This variant reduces net contributions but does not dampen group differences.

Table 6.5 Total net contribution relative to the Base Scenario, over the period 1996-2019, weighted by re-emergence region based on the 42 division (minus the Netherlands).

Scenario	Total net contribution relative to baseline scenario
Baseline scenario	100%
35% public goods to PPI	80%
Public goods 20% higher	135%
State pension at 65	115%
Discount rate 1% lower	156%

In summary, the scenarios produce differences. The state pension age at 65 yields relatively small differences. With a 1% lower discount rate, the difference between the highest and lowest net contributions becomes much larger (the difference is then about 1.1 million euro). In contrast, partially allocating public goods in proportion to contribution to GDP actually dampens group differences. If the cost of public goods rises disproportionately with population growth, net contributions become lower across the board.

However, the colour scheme in Table 6.4 shows that in all variants, the mutual ranking of the 42 regions is almost the same as in the baseline scenario. In this sense, the differences are mainly gradual. In policy application, such as steering by net contribution, a different scenario therefore does not always suddenly yield totally different results. Table 6.5 shows the effect on the total net contribution over the period 1996-2019, relative to the baseline scenario.

7 Government costs and benefits of recent and future immigration

By Jan van de Beek

7.1 Introduction

Based on the results from the previous chapters, this chapter provides an estimate of the costs and benefits for the government of recent and future immigration. As explained in Chapter 3, broadly speaking, two approaches can be distinguished for calculating the costs and benefits of immigration: the static approach and the dynamic approach. In order to achieve a correct interpretation of the results in this chapter, it is first explained what this chapter does not intend to do, namely to provide a static cost-benefit analysis. The remaining sections of this chapter are devoted to presenting an estimate of the costs and benefits of immigration in the recent past and the near future using the dynamic approach from Chapters 4 to 6.

The static approach is a snapshot of the costs and benefits of immigration. During a short period – for example one year – it is determined what will flow in and out of the treasury on balance. Table 7.1 shows the results of such a calculation for 2016, both for the entire Dutch population and broken down by immigration background.

In 2016, the realized net impact of immigration on public finances amounted to 17 billion euros.[244] The group with a non-Western immigration background received a net amount of 18 billion euros from the treasury in 2016, or €8,500 per person. The lion's share – 16 billion euros – was raised by the group with Dutch background, about €1,200 per person. Persons with a Western immigration background were net contributors for €500 per person and paid a total of 0.9 billion euros to the treasury. The remaining part (1.1 billion euros) was financed from other means. ↲

The advantage of the static approach is that the calculation is relatively simple. The big disadvantage, however, is that considerable distortion can arise due to differences in age structure alone. On average, in the Netherlands it is mainly people aged 25 to 65 who are net contributors to the treasury. People up to the age of 25 and over 65 are generally net recipients. Among native Dutch people, the group aged 25 to 65 made up 52% of the total in 2016, much less than among first and second generation non-Western (55%) and Western (58%) immigrants.[245] This creates a significant positive bias, especially among Western immigrants.[246] Because of this bias, it is quite possible that groups that come

[244] Following the CPB, some government income and expenditure are not allocated to individuals, in particular interest paid by the government, taxes received from abroad, gas revenues and government income from assets. Government revenues and expenditures were therefore higher and total government finances showed a positive balance in 2016. See Statistics Netherlands StatLine, *Overheidsfinanciën; kerncijfers*, retrieved 24-12-2020 from: https://opendata.cbs.nl/statline#/CBS/nl/dataset/84114NED/table?dl=476E0

[245] Statistics Netherlands StatLine, *Bevolking; geslacht, leeftijd, generatie en migratieachtergrond, 1 januari*, retrieved 24-12-2020 from: https://opendata.cbs.nl/statline#/CBS/nl/dataset/37325/table?dl=486BD

[246] In the hypothetical case that residents with a first-generation Western and non-Western immigration background in 2016 made an equally large net contribution to the treasury for each age as people without an immigration background (native Dutch people) of the same age, the net contribution to the treasury of a first generation Western or non-Western immigrant would in 2016 be greater than the net contribution of a native Dutch person, purely as an effect of age structure. One-off costs for, for example, asylum accommodation, are not taken into account.

out as net contributors in a static approach are actually net recipients over their life course, or vice versa.[247]

Table 7.1 Total costs and benefits for the treasury attributed to individuals, by immigration background, 2016 (statistical approach). Source: Our own calculation based on Statistics Netherlands StatLine and Statistics Netherlands microdata.

	Benefits (billion euros)	**Costs** (billion euros)	**Balance** (billion euros)	**Population** (million people)	**Per person** (multiples of €100)
Population	**298.8**	**299.9**	**-1.2**	**17.2**	
Dutch background	**245.7**	**229.6**	**16.1**	**13.4**	**€1,200**
Immigration background	**53.1**	**70.4**	**-17.3**	**3.8**	**-€4,600**
Western	**29.1**	**28.2**	**0.9**	**1.7**	**€500**
First generation	13.1	12.4	0.7	0.8	€900
Second generation	16.0	15.8	0.2	0.9	€200
Non-Western	**24.0**	**42.1**	**-18.2**	**2.1**	**-€8,500**
First generation	16.5	24.7	-8.1	1.1	-€7,100
Second generation	7.4	17.5	-10.0	1.0	-€10,200

The dynamic approach used in the present study has the advantage of avoiding age bias in principle, because the entire remaining life course is considered, from the moment of immigration or birth, to the moment of remigration or death. Pension and health care costs that may be in the distant future at the time of immigration are, for example, also taken into account in this approach. However, this only applies if we do not discount. In particular, immigrant groups who do not contribute or contribute negatively during their working age – such as asylum seekers – appear more treasury-friendly due to discounting.[248]

However, a disadvantage of the dynamic method is that it is complex to make a good estimate of future amounts. Although this obviously creates uncertainty[249], clear net contributors will not readily be recorded as net recipients or vice versa, as is possible with the static method.[250] It is therefore necessary to update such a calculation periodically in order to adjust the results to, for example, differences in integration speed between immigrant groups.

[247] A recent example is a study by the National Bank of Belgium (2020), p. 57, where, based on the static method, it is stated: "Considering … the second generation, it appears that their net average contribution to public finances is higher than that of … natives of native origin, but this finding clearly reflects differences in age structures between the sub-groups." Calculation with the dynamic method based on the underlying data of the National Bank of Belgium shows, however, that the net contribution (over the life course) of 'the second generation', not discounted, is more than €200,000 lower than that of 'natives of native origin' and discounted at 1% about €150,000 lower.

[248] When discounted with a discount rate of 2.5% – as is done in this report – the difference for the first generation between, for example, the asylum origin region of Afghanistan, Iran, Syria and Iraq and North America is more than €100,000. Without discounting, this difference is about €250,000.

[249] For insight into the degree of uncertainty that can be obtained with a sensitivity analysis, see §6.5.

[250] In other words, measurement errors in the dynamic approach are not likely to cause substantial changes in the ordering of the group average net contributions, as is possible with the static method, see footnote 247.

Another disadvantage of the dynamic approach is that the amounts are more difficult to interpret than is the case with the static approach. The static approach involves amounts that, in general terms, are actually included in the government budget in the relevant period. However, this is not the case in the dynamic approach. In the calculations in the previous chapters, the net contribution for an immigrant who immigrated in 2016 is determined as, in other words, *the sum of all expected future costs and benefits, expressed in euros of 2016*. The costs and benefits are therefore allocated to the year of immigration 2016, but the actual impact on public finances will largely take place in the years that follow.[251]

The calculation of the costs and benefits of historical immigration has been performed as follows. For each combination of origin and motive, the amounts in Table 6.3 have been multiplied by the numbers of immigrants who entered the country annually during the period 1995-2019. To make this concrete: if in 2015, for example, 10,000 labour immigrants came from the European Union, the total net contribution of labour immigrants in that year is calculated to be 1.29 billion euros positive (10,000 times the net contribution of this group of €129,000 from Table 6.3).

The calculation for near-future immigration is similar. Several scenarios have been developed for future immigration, based on assumptions about the future numbers of immigrants for each combination of origin and motive. Subsequently, the amounts from Table 6.3 were multiplied by the expected numbers. Thus, in concrete terms: if in the year 2030 100,000 immigrants from the EU are expected in a certain scenario, the net contribution of immigrants from the EU in that scenario for the year 2030 is calculated at 12.9 billion euros positive (100,000 times the net contribution of this group of €129,000 from Table 6.3).

Box 7.1 Calculation of the net contribution (benefits minus costs) for historical and future immigration.

Conversely, the vast majority of the net costs of non-Western immigration in the static calculation of Table 7.1 is not the result of the immigration in 2016 itself, but of the hardly selective admission policy in the preceding decades. The net amount actually flowing into or out of the treasury through immigration in a given year (static) will generally differ from the total net contribution of the immigrants admitted in that year (dynamic). For the 2016 reference year, the impact of immigration on the budget is 17 billion euros negative (static), so more than half of the negative net contribution of 30 billion euros that the immigrants who were admitted in 2016 will make over their life course (dynamic). However, if immigration were to remain at current levels for a long period of time, with the current negative net contribution per immigrant, the actual annual budget requirement will be somewhere in the long run at around 50 billion euros per year.[252]

[251] In the remaining sections of this chapter, the net contribution is also always allocated to the year of immigration. All amounts mentioned in this in the remaining sections of this chapter are the net contribution – that is, the net present value of the expected future financial costs and benefits – allocated to the year of immigration. These amounts are also always shown in the figures in the remaining sections of this chapter by the year of immigration. However, the vast majority of the costs and benefits will be realized after the year of immigration and will not be directly visible on the government budget for the year of immigration.

[252] This refers to the steady state that will be achieved (ceteris paribus) in the long run, if immigration remains at the current level for a long time in terms of size and in terms of cost and benefit structure and the discount rate used is positive. A simulation for the Netherlands in which – from an initial situation without immigration – the annual immigration is constantly equal to the average immigration over the period 2015-2019 and the immigrants always have a cost-benefit structure equal to the average immigrant as observed in 2016, shows that the annual actually realized burden on public finances is initially low, after almost 30 years it is half of the net contribution, after more than 60 years equal the net contribution and after about 120 years stabilizes at almost twice

If immigration remains at the 2015-2019 level in terms of size and cost-benefit structure, the annual budget burden will gradually increase from 17 billion euros in 2016 to about 50 billion euros per year in the long run, a threefold increase that the welfare state most likely wouldn't survive. This is an important policy-relevant observation. It shows that the net costs of immigration can gradually accumulate over a longer period of time, due to ongoing policy and irreversible policy decisions from the past. Such a process is underway in the Netherlands when it comes to non-Western immigration.[253] To put it eloquently, with the admission of the average non-Western immigrant, the government is in effect granting the person in question a claim on the treasury with a net present value of nearly €150,000. For the average immigrant, this claim is cashed in by the redistribution from the high to the low-skilled, a process that is facilitated by relatively flexible access to welfare state arrangements and a weak incentive to participate in te labour process. This is of course not about the (in the context of the Dutch debate) almost proverbial Indian IT workers who enter through the selective labour immigration channel – who are among the positive exceptions – but about the much larger numbers of non-Western asylum and family immigrants and labour immigrants from Africa[254] and the Middle East. ↲

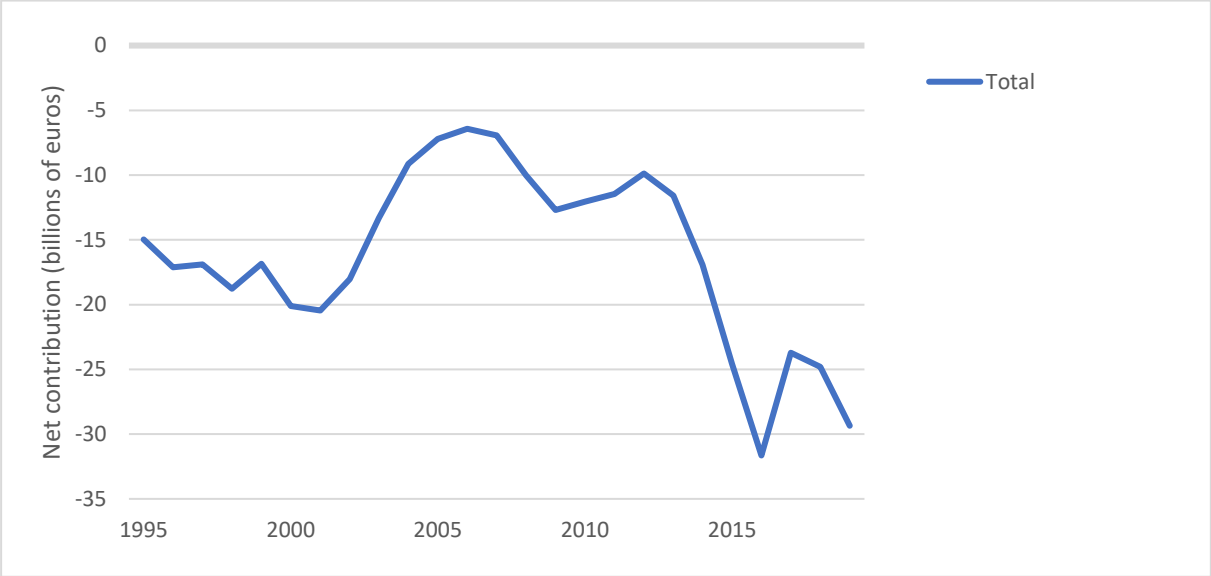


Figure 7.1 Net contribution of first-generation immigrants and their children allocated to the year of immigration, 1995-2019. Note: all amounts are below the thick grey zero line and are negative. Source: Our own calculation based on Statistics Netherlands StatLine and Statistics Netherlands microdata.

In the remaining sections of this chapter, based on the results from Chapter 6, an estimate is made of the net contribution – costs minus benefits – of immigration in the recent past and the near future. This concerns the net contribution of the first and second generation together, taking into account mortality and remigration and broken down by region of origin and immigration motive. The period 1995-2019 has been used for the recent past because detailed data on immigration by region of origin

(1.94) the net contribution. Another approach is to perform the generational accounting for all immigrants with the discount rate equal to the economic growth assumed by the CPB (1%) and this yields a factor of 1.96. Averaged over the years 2015-2019, the net contribution is more than €25 billion per year negative, which thus amounts to a net cost of almost €50 billion.

[253] The same applies to some of the Western immigrants, for example when it comes to immigration from the Central and Eastern European countries, but here for simplicity we will stick to the example of Table 7.1.

[254] Except for Southern Africa, *in casu* especially South Africa.

and immigration motive (work, study, asylum, family immigration, etc.) is only kept from 1995 onwards. The period 2020-2040 has been chosen for the near future.

The net contribution of historical and future immigration is calculated in this chapter by multiplying, for each combination of origin and motive, the amounts[255] in Table 6.3 by the observed or expected numbers of immigrants (for more explanation see Box 7.1). For each combination of origin and motive and for each year[256], the net contribution is therefore calculated on the basis of the characteristics that the average immigrant from the relevant group had in the year 2016.[257]

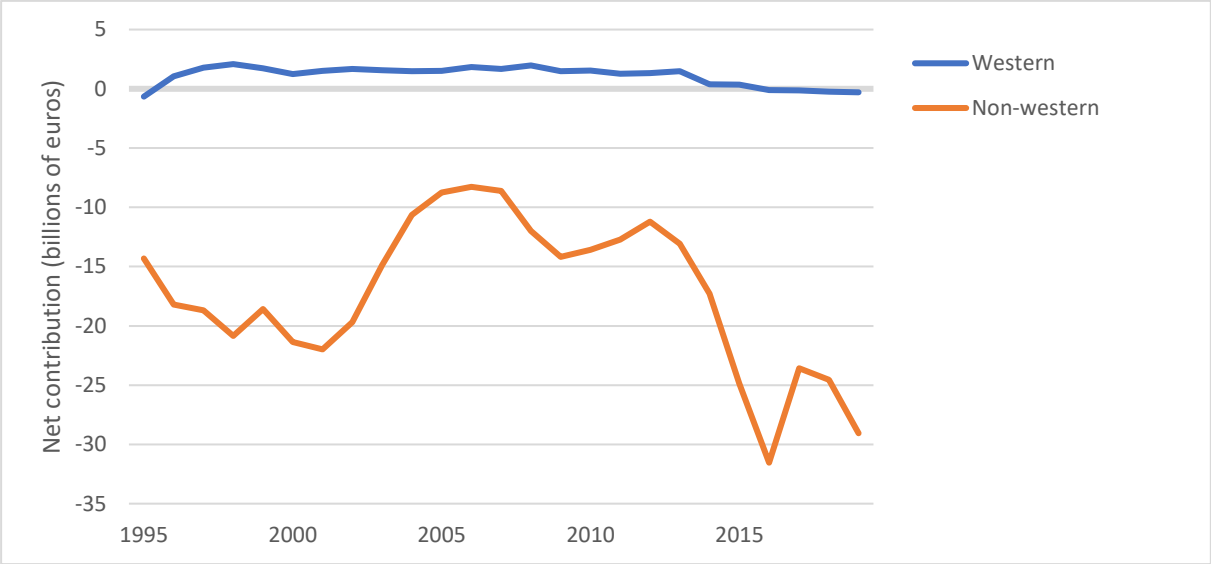


Figure 7.2 Net contribution of first-generation immigrants and their children by region of origin, allocated to the year of immigration, 1995-2019. Source: Our own calculation based on Statistics Netherlands StatLine and Statistics Netherlands microdata.

7.2 Costs and benefits of recent immigration, 1995-2019, development by year

The net costs of non-Western immigration averaged about 27 billion euros per year over the 2015-2019 period (euros of 2016), while Western immigration was roughly budget neutral. Measured over the entire period 1995-2019, the annual net costs of non-Western immigration amount to 17 billion euros and the annual net benefits of Western immigration amount to 1 billion euros. Figure 7.1 shows the total costs and benefits of the immigration that took place in the various years. The total amount is negative and the net costs fluctuate between 6 and 32 billion euros per year. The peak in net costs of minus 32 billion euros in 2016 is largely the result of asylum immigration from Syria in particular at the time of the so-called 'refugee crisis'. However, this graph hides major qualitative differences. In Figure 7.2 the costs and benefits are broken down by Western and non-Western immigration background. The total net contribution of Western immigrants fluctuates between -1 and +2 billion euros. Non-Western immigrants, however, make a negative net annual contribution of -8 to -32 billion euros. ↵

[255] Since the amounts in Table 6.3 are expressed in euros of 2016, this also applies to all amounts in this chapter.
[256] For 1995-2017, the numbers for each combination of origin and motive have been calculated on the basis of Statistics Netherlands microdata. For the years 2018 and 2019, they have been estimated on the basis of the total immigration per group and information from Statistics Netherlands StatLine tables about permits issued by the IND and the immigration reason derived by Statistics Netherlands.
[257] Adjusted for economic forecasts by the CPB and policy changes regarding, for example, the state pension age.

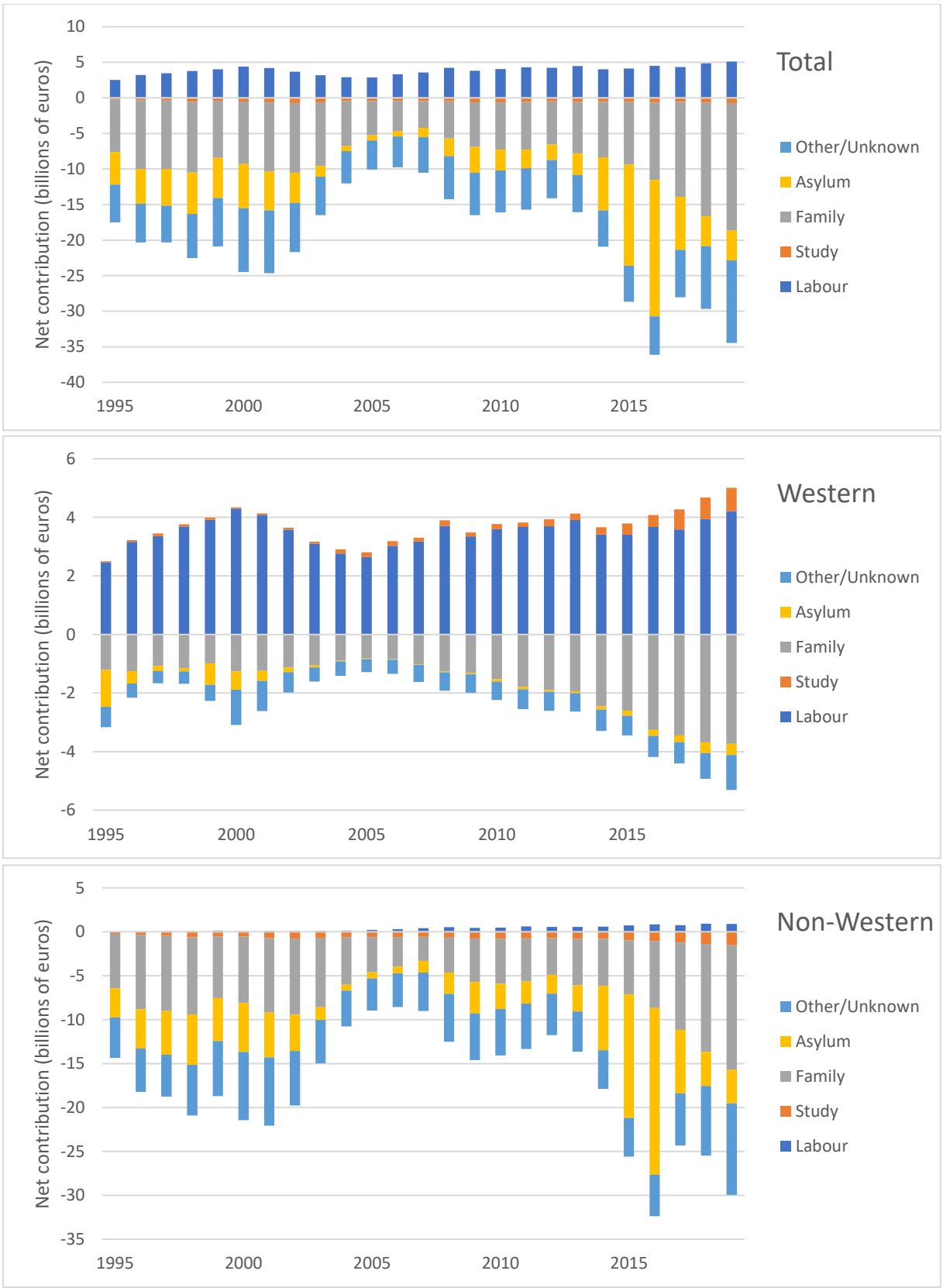


Figure 7.3 Net contribution of first-generation immigrants and their children by motive and region, allocated to the year of immigration, 1995-2019, for all immigrants (top), Western immigrants (middle) and non-Western immigrants (bottom). Source: Our own calculation based on Statistics Netherlands StatLine and Statistics Netherlands microdata. Note: The scale for the net contribution along the vertical axis differs between the graphs.

Figure 7.3 shows further detail. When reading Figure 7.3, one should keep in mind that all columns above the zero line represent positive amounts and all columns below the zero line represent negative amounts. This also applies to all other figures in this section with the same layout. In the figures, the category 'unknown/other' stands for immigrants with the motive other and for immigrants whose motive is unknown or does not need to be specified, for example because they have Dutch nationality.

The net contribution of all immigrants is given at the top of Figure 7.3, broken down by immigration motive. It can be seen that four motives dominate the net contribution picture: labour dominates the net benefits, while the motives family, asylum and to a lesser extent unknown/other dominate the net costs. Only Western immigration is shown in the middle of Figure 7.3. Here again it is labour that dominates the benefit side. On the cost side, it is mainly family immigration and a little bit of asylum, especially in the 1990s. At the bottom of Figure 7.3, only non-Western immigration is shown. Labour immigration plays a growing, yet very minor role on the benefits side. On the cost side, the motives of family and asylum dominate, again clearly showing the role of the 2015 refugee crisis.

Western immigration is budget neutral to slightly positive, while non-Western immigration is very expensive. An important cause is that the net contribution of Western immigrants is higher for all motives of immigration. Depending on the motive, the difference amounts to €100,000 to €300,000 per immigrant (see §6.4). In addition, the relationships between the various motives in Western immigration are much more favourable: a relatively large proportion of favourable labour immigration and a relatively small proportion of very expensive asylum immigration. Finally, for Western immigrants, the costs of family immigration are on average lower, although these costs are increasing due to an increasing proportion of immigrants from Central and Eastern European countries.

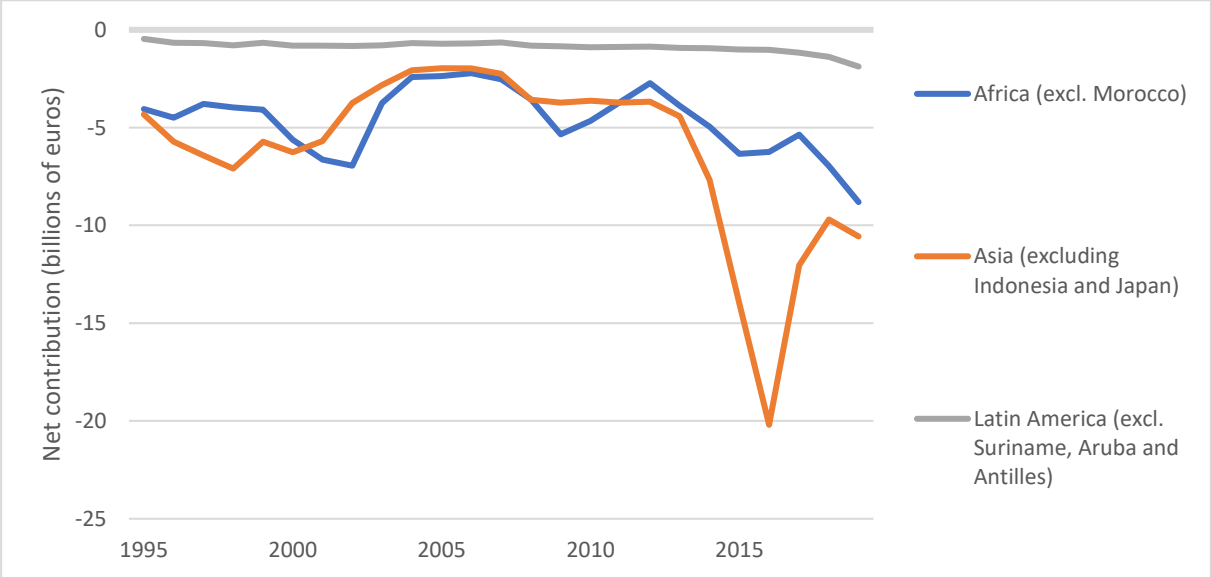


Figure 7.4 Net contribution of first-generation immigrants and their children, allocated to the year of immigration, broken down by region of origin, 1995-2019. Note: all amounts are below the thick grey zero line and are negative. Source: Our own calculation based on Statistics Netherlands StatLine and Statistics Netherlands microdata.

Figure 7.5 Net contribution of first-generation immigrants and their children, allocated to the year of immigration, 1995-2019, broken down by motive for Latin America (top), Africa (middle) and Asia (bottom). Source: Our own calculation based on Statistics Netherlands StatLine and Statistics Netherlands microdata. Note: The scale for the net contribution along the vertical axis differs between the graphs.

If we look at the non-Western (parts of) continents, then immigration from Latin America has a limited budgetary effect of up to 2 billion euros negative. Migration from Africa has a negative balance of 2 to 9 billion euros annually. For Asia, the costs peaked at around 20 billion euros in 2016 due to the refugee crisis and the net costs will then also be higher than before.

Figure 7.5 zooms in on each of the three continents separately, broken down by motive. It can be seen that for the region of origin Latin America (above in the figure) there are growing benefits for labour immigration, but that these are overshadowed by the most important cost items family and unknown motive. Study immigration has a small but growing share of the net costs.

The net contribution of immigration from Africa (middle) is fairly erratic, with peaks (up to 9 billion euros negative annually) that are largely caused by asylum immigration. In addition, family immigration and immigration of unknown motive are cost items. In terms of size, labour immigration is a minor cost item for Africa as a whole (there are of course always regional differences and labour immigrants from South Africa, for example, do very well).

The net contribution from Asia as a whole is negative. There are, however, increasing benefits from labour immigration, amounting to approximately one billion euros at the end of the period. This is offset however by much greater costs for family immigration. Asylum immigration from Asia, however, is the most obvious cost item, certainly at the end of the period (refugee crisis). For 2016 alone, the costs for asylum are approximately 16 billion euros. The costs of family immigration from Asia also recently increased to about six billion euros, which can be partly explained as an effect of the asylum immigration peak.

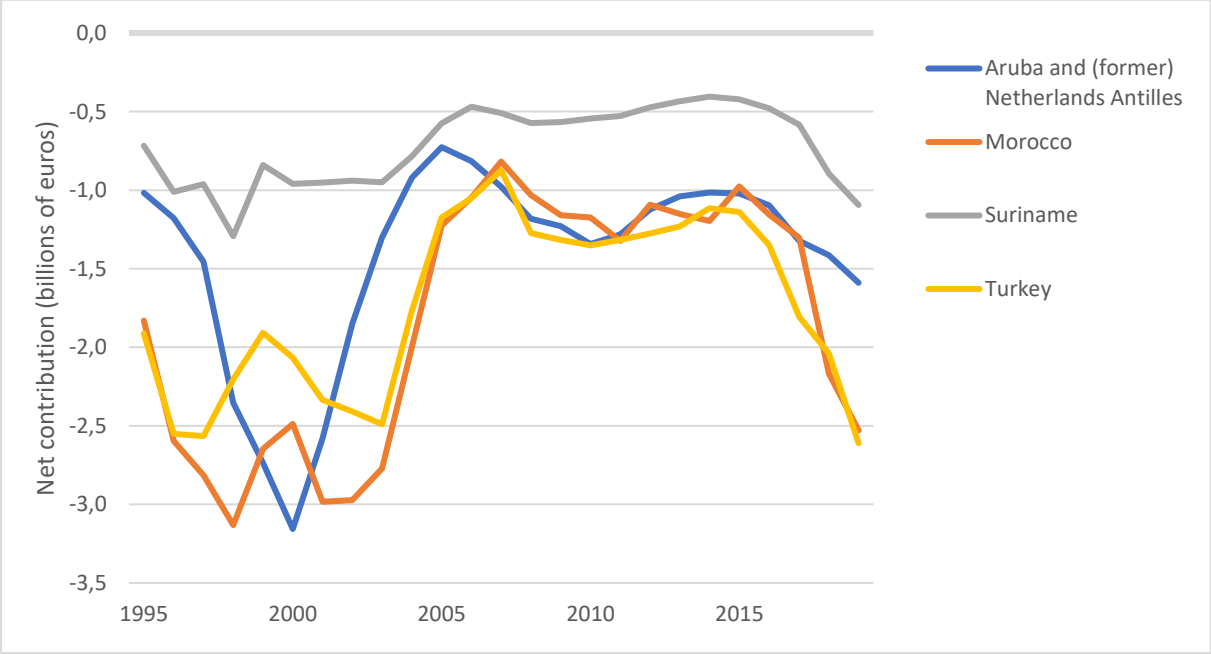


Figure 7.6 Net contribution of first-generation immigrants and their children, allocated to the year of immigration, broken down by region of origin, 1995-2019. Note: all amounts are below the thick grey zero line and are negative. Source: Our own calculation based on Statistics Netherlands StatLine and Statistics Netherlands microdata.

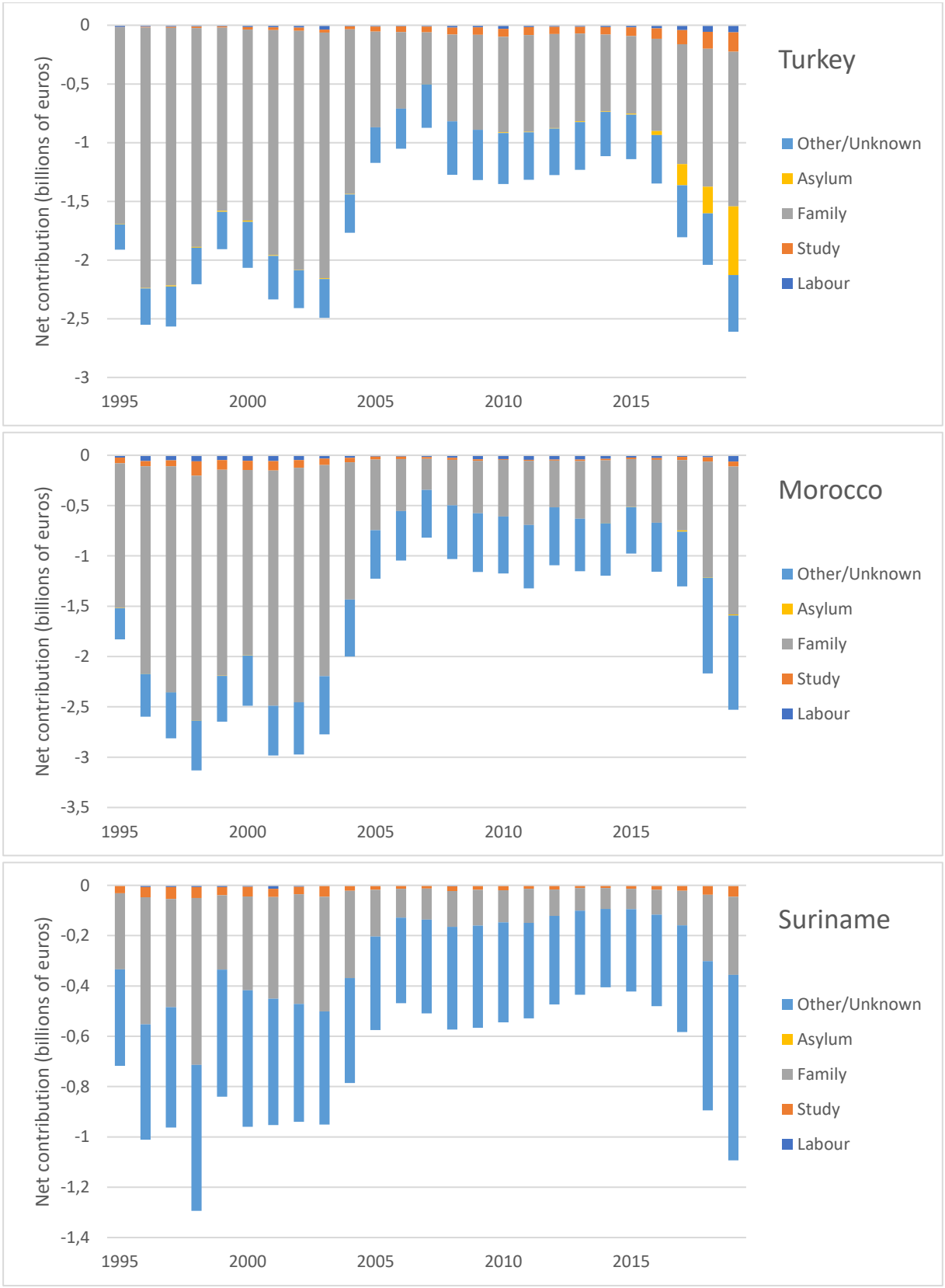


Figure 7.7 Net contribution of first-generation immigrants and their children, allocated to the year of immigration, 1995-2019, broken down by motive for Turkey (top), Morocco (middle) and Suriname (bottom). Source: Our own calculation based on Statistics Netherlands StatLine and Statistics Netherlands microdata. Note: The scale for the net contribution along the vertical axis differs between the graphs.

The net contribution for the period 1995-2019 for the four major 'classic countries of origin' Turkey, Morocco, Suriname and Aruba and the (former) Netherlands Antilles is shown in Figure 7.6. Part of the migration from the Antilles can be seen as a form of internal immigration, but for the sake of completeness this group is also included in the analysis as much as possible. It can be seen that for Suriname the costs per year fluctuate around half a billion to one billion euros annually. For the other three groups, the net costs are between one and three billion euros per year. There is no credit balance for any of these groups.

In Figure 7.7 the costs for Morocco, Turkey and Suriname are broken down by motive. For immigrants from Aruba and the (former) Antilles, there is no breakdown for motive and this group is therefore not shown in Figure 7.7 The costs arise mainly from family immigration and immigration with an unknown motive. This largely concerns people who do not have to state an immigration motive because they have Dutch nationality. Especially for immigrants from Suriname, this group forms the main part of the costs.

In the case of immigration from Turkey and Morocco, there was a sudden decrease in costs around 2005. From Figure 7.7 it can be concluded that, in particular, the costs of family immigration decrease sharply around that time, which is partly due to stricter admission requirements and the *Wet inburgering in het buitenland* (Civic Integration Abroad Act) (see §2.3). The costs of immigration with an unknown motive (often, as mentioned, people with Dutch nationality) do increase slightly, but that does not compensate for the decrease in the costs of family immigration. It is also important to emphasize once again that the negative net contribution, certainly for the first generation, cannot be directly traced back to guest labour or colonial immigration because, in the graphs shown here, this concerns immigration from the year 1995.

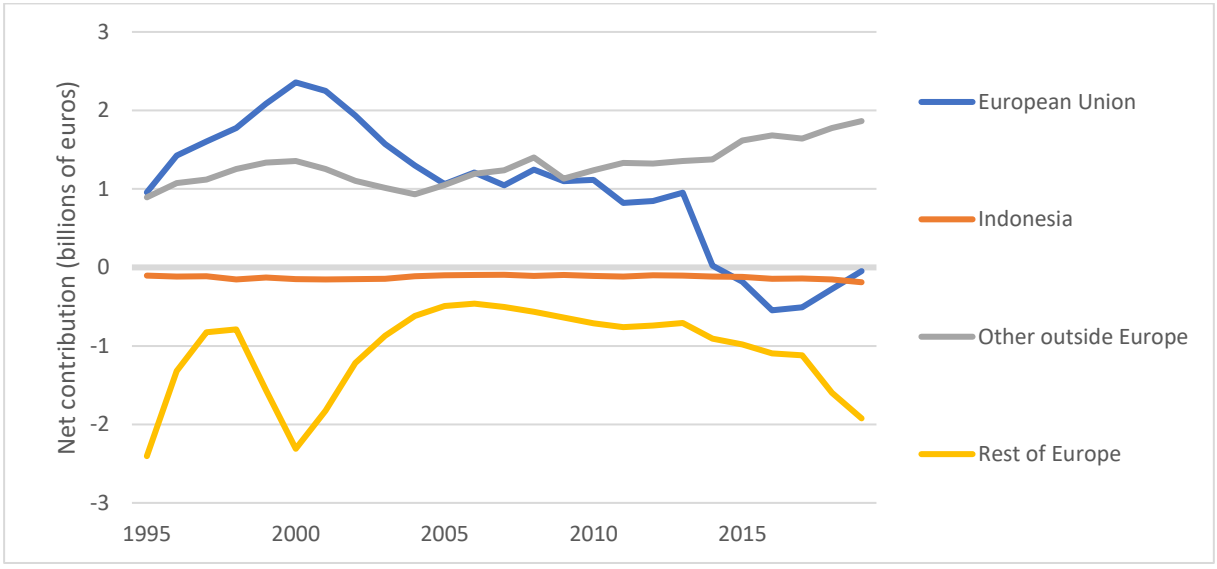


Figure 7.8 Net contribution of first-generation immigrants and their children, allocated to the year of immigration, broken down by region of origin, 1995-2019. Source: Our own calculation based on Statistics Netherlands StatLine and Statistics Netherlands microdata.

Figure 7.8 shows the net contribution of the four Western regions. For immigration from the Other outside Europe region (North America, Oceania and Japan), there is a positive balance of one to two billion euros. Immigration from the European Union turns from positive with a peak of plus two and a half billion euros in 2000 to negative half a billion euros in 2016 and 2017. Later in this section it will

be made clear that this has to do with the growth of labour and family immigration from Central and Eastern Europe. For the Rest of Europe region, the amount fluctuates from negative one half to two billion euros.

Immigration from Indonesia has a very small negative effect on the government budget. This immigration should not be confused with the post-war immigration of the Indo-Dutch population because, as far as the first generation is concerned, this concerns only immigration starting from 1995. Of course, all kinds of connections between these immigration flows are conceivable, but they are essentially different. Figure 7.9 shows that the costs of immigration from Indonesia are mainly caused by family immigration and increasingly study immigration. However, the total amounts per year are relatively small, in the order of a few hundred million euros.

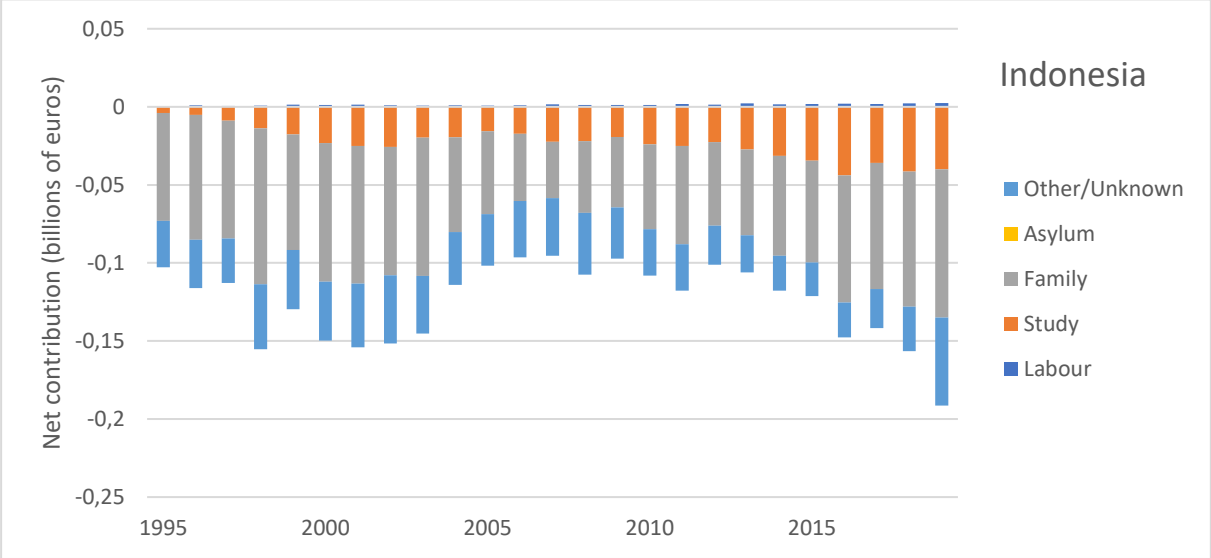


Figure 7.9 Net contribution of first-generation immigrants and their children by motive, allocated to the year of immigration, 1995-2019, for Indonesia. Source: Our own calculation based on Statistics Netherlands StatLine and Statistics Netherlands microdata.

For the other three Western regions of origin, the results are broken down by origin motive given in Figure 7.10. At the top of this figure, the results are given for immigration from the Other outside Europe region. This region includes Western countries outside Europe, with the exception of Indonesia, which is also classified as Western by Statistics Netherlands. In concrete terms, this concerns the US and Canada in North America, Japan in Asia and Oceania, with Australia and New Zealand as the largest countries. Figure 7.10 shows that there are many benefits and hardly any costs for this region of origin, apart from a relatively small amount for family immigration. Migration for this region is completely dominated by labour immigration, which generates a positive balance of almost two billion euros in 2019.

The Rest of Europe region comprises a very mixed group of countries. On the one hand, the so-called EFTA countries such as Norway and Switzerland fall into this category. On the other hand, this category also includes the former Yugoslavia and the former Soviet Union, where a large proportion of European asylum seekers come from. A negative balance applies for this region as a whole. Although labour immigration does make a positive contribution, there are relatively high costs from asylum and family immigration. Figure 7.10 shows that, especially in the 1990s, there were significant downturns that were partly caused by asylum immigration, including the war in the former Yugoslavia.

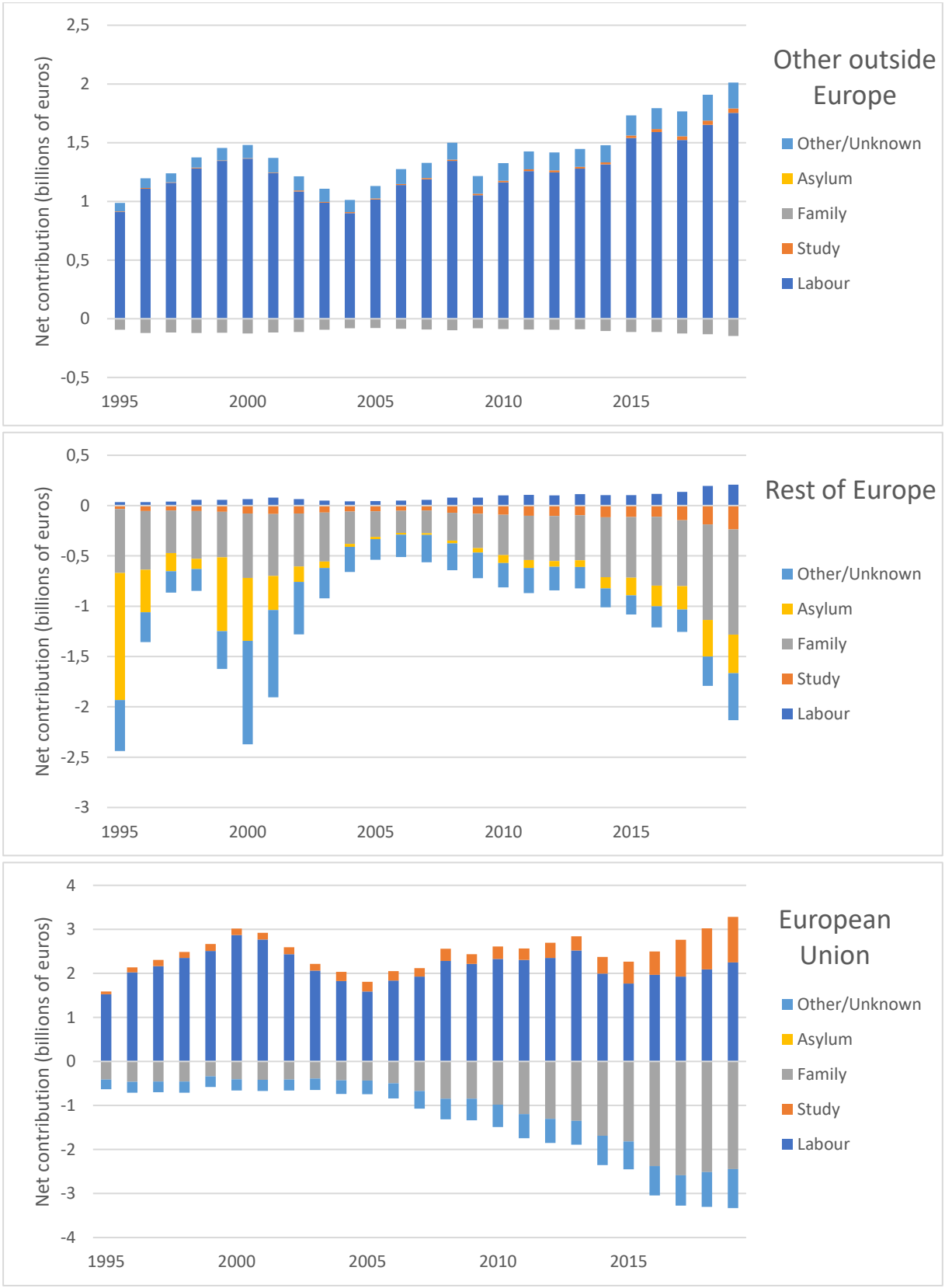


Figure 7.10 Net contribution of first-generation immigrants and their children, allocated to the year of immigration, 1995-2019, broken down by motive for the regions Other outside Europe (top) and Rest of Europe (middle) and for the European Union (bottom). Source: Our own calculation based on Statistics Netherlands StatLine and Statistics Netherlands microdata. Note: The scale for the net contribution along the vertical axis differs between the graphs.

The bottom of Figure 7.10 shows the results for the European Union. Migration from the EU is substantial in terms of numbers of immigrants, but makes hardly any net contribution to the treasury in recent years. Labour migration completely dominates the benefits side and this, together with the also beneficial student migration, does make a substantial positive net contribution on average, but this is offset by steadily increasing net costs due to family migration from 2005 onwards.

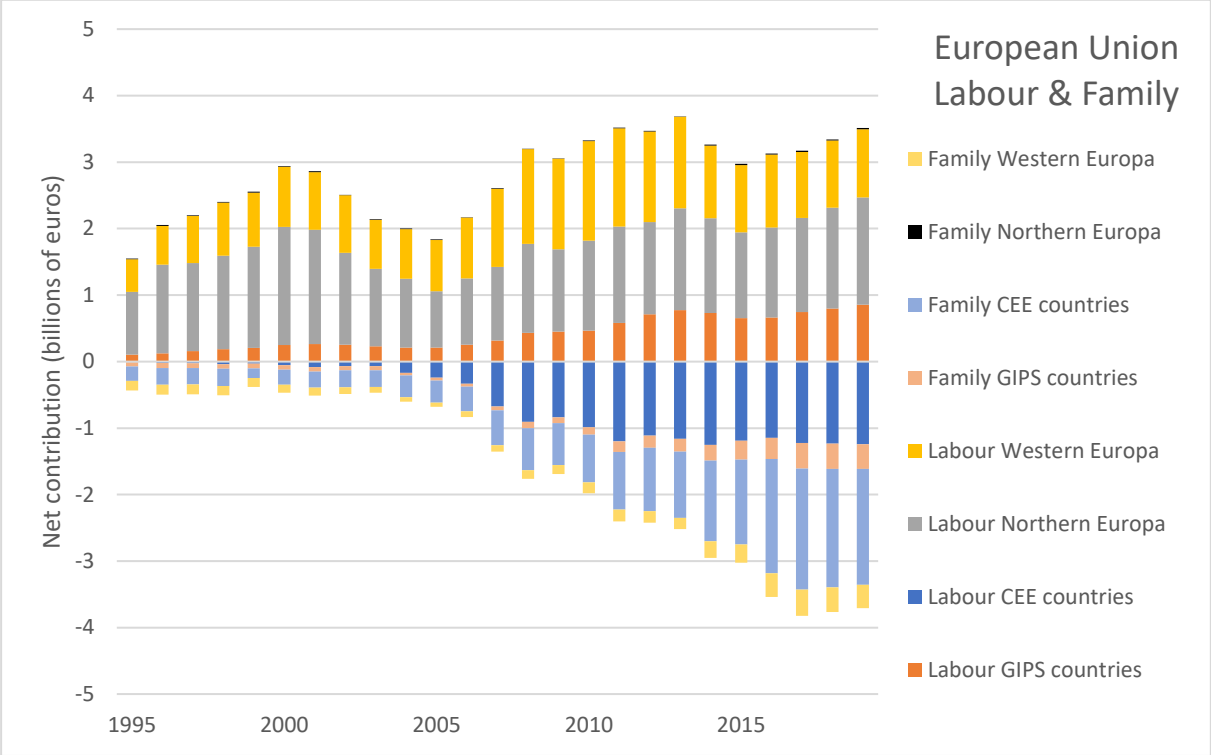


Figure 7.11 Net contribution of first-generation immigrants and their children, allocated to the year of immigration, 1995-2019, broken down by labour and family immigration for four regions within the European Union. Source: Our own calculation based on Statistics Netherlands StatLine and Statistics Netherlands microdata.[258]

Moreover, the composition of EU immigration also changes over time, as can be seen from Figure 7.11 (see also §2.3). It can be seen that until about 2005 there was hardly any labour or family immigration from the CEE countries. Subsequently, this immigration increases rapidly, first mainly labour immigration and later also family immigration, which ultimately exceeds labour immigration in size. Both forms of immigration make a negative net contribution[259] for the CEE countries. These are the dark blue and light blue columns in Figure 7.11. For the GIPS countries, the benefits of labour immigration (dark orange columns) exceed the costs of family immigration (light orange columns), although the difference is small and decreasing. For Western Europe, the benefits of labour immigration (dark yellow columns) largely exceed the costs of family immigration (light yellow columns). For the Northern Europe region,

[258] Northern Europe: UK, Ireland, Denmark, Sweden and Finland. Western Europe: Belgium, Luxembourg, France Germany and Austria. GIPS countries: Greece, Italy, Portugal, Spain, Malta and Cyprus. CEE countries: Hungary, Czech Republic, Slovakia, Slovenia, Croatia, Bulgaria, Romania, Poland and the Baltic States. See also the Glossary.
[259] That labour migration from Central and Eastern Europe has a negative impact for the treasury is no surprise. For the most part, those involved perform low-paid work and – just like the Dutch in the same position – they therefore pay relatively little tax and premiums, while they do benefit above average from income-dependent schemes such as allowances.

there is a positive balance for both labour immigration (grey columns) and family immigration (very small black lines at the top of Figure 7.11).

Table 7.2 Total net contribution (in billions of euros) for first-generation immigrants and their children, by origin and immigration motive, 1995-2019. Source: Our own calculation based on Statistics Netherlands StatLine and Statistics Netherlands microdata.

	Labour	Study	Asylum	Other / Unknown	Family	Total
Other outside Europe	31	0	0	3	-3	33
European Union	54	8	0	-11	-26	25
Indonesia	0	-1	0	-1	-2	-3
Suriname	0	-1	0	-11	-6	-18
Latin America	3	-3	0	-11	-11	-22
Other Europe	2	-2	-6	-8	-13	-27
(Former) Antilles	0	0	0	-36	0	-36
Turkey	-1	-1	-1	-9	-31	-43
Morocco	-1	-1	0	-14	-30	-46
Africa	-1	-6	-37	-34	-37	-115
Asia	9	-7	-76	-23	-56	-153
Total	97	-13	-121	-154	-214	-405

7.3 Costs and benefits of recent immigration, 1995-2019, total amounts

Summation over the past 25 years gives an overall picture of the costs and benefits of immigration for the first and second generation together, as shown in Table 7.2. On the income side is mainly labour immigration from most Western countries (with the exception of the CEE countries), a large part of Asia (with the exception of West Asia) and Latin America[260]. All in all, there is a positive balance of 97 billion euros for labour immigration from the aforementioned regions. For labour immigration from the regions of Central and Eastern Europe and West Asia, the fiscal costs exceed the fiscal benefits, which is discounted in the totals for the European Union and Asia respectively. In addition, student immigration from the European Union makes a positive contribution of approximately 8 billion euros. Overall, however, study immigration is a cost item of 13 billion euros.

All other immigration is on the cost side. Asylum immigration is very expensive per immigrant and this is also reflected in the total amount of 121 billion euros in net costs for a relatively small group of immigrants. Immigration with other or unknown motive – for a considerable number of people who do not have to state a reason for immigration, for example because they have Dutch nationality[261] – yields a (net) cost item of 154 billion euros. The largest item, however, concerns family immigration with a net cost of 214 billion euros.

In summary, the picture of the fiscal costs and benefits shows a mixed result: substantial total net contributions for labour immigration, especially if it originates from the European Union (with the exception of the CEE countries), the Anglo-Saxon countries and Asia (with the exception of West Asia) and Latin America. In addition, a smaller amount for study immigration from the EU. On the other hand, however, there are much greater negative effects of asylum and family immigration in particular.

[260] Information about the CEE countries and West Asia is not shown in Table 7.2, but can be found in Figure 6.4.
[261] Statistics Netherlands, *Statistiek Migratiemotieven*, retrieved 2-1-2021 from: https://www.cbs.nl/nl-nl/onze-diensten/methoden/onderzoeksomschrijvingen/korte-onderzoeksbeschrijvingen/statistiek-migratiemotieven

In the end, a negative balance of 405 billion euros remains. That is an amount in the order of magnitude of the total natural gas revenues from the start of extraction to the present day.[262]

As explained in §6.4, there is only a positive balance left in labour immigration for a few regions after discounting the costs of the inevitable chain migration in the form of family immigration. Here we repeat the summary at the end of that paragraph: From the point of view of the treasury, only labour immigration from Japan, the Anglo-Saxon countries, Scandinavia[263] and a number of neighbouring countries such as Belgium, France, Germany, Austria and Switzerland is unequivocally positive. A smaller credit balance applies to labour immigration from a few other Western countries such as Italy and Spain and from a few non-Western countries such as Israel, India and the Asian tigers. In addition, study immigration from the EEA area (EU plus EFTA) is positive.

7.4 Costs and benefits of future immigration

In this section, three scenarios are presented for the possible development of costs and benefits in the near future. The period 2020-2040 has been used for this. In the three scenarios presented here, it is in principle assumed that the size of the immigration is the same as that in the Statistics Netherlands population forecast from 2020.[264] The scenarios mainly differ in the assumptions regarding the composition of the immigration by region of origin and immigration motive (work, family, study, asylum and other/unknown).

The calculation is further based on the amounts for the costs and benefits per combination of motive and region as given in Table 6.3. This is done by multiplying the amounts found in Table 6.3 by the expected numbers of immigrants for each combination of region of origin and immigration motive (for more information, see Box 7.1). The costs and benefits are therefore calculated for each group on the basis of the characteristics that the average immigrant from that group had in the year 2016.[265]

The base scenario assumes that the size of the immigration is the same as that in the Statistics Netherlands population forecast from 2020. It is also assumed that the composition of the immigration by region of origin is the same as that in the Statistics Netherlands population forecast from 2018.[266] Finally, it is assumed that the composition by immigration motive is the same as the composition in the 10-year period 2008-2017.

The growth scenario is the same as the base scenario except for two assumptions. First, it is assumed that labour and family immigration from the CEE countries will grow from 2021 with the trend growth over the period 2008-2017. Over this period, the number of labour immigrants from Central and Eastern Europe increased annually by 615 persons and the number of family immigrants by 845 persons

[262] Expressed in euros of 2018, see Statistics Netherlands, *Aardgasbaten uit gaswinning bijna 417 miljard euro*, retrieved 24-12-2020 from: https://www.cbs.nl/nl-nl/nieuws/2019/22/aardgasbaten-uit-gaswinning-bijna-417-miljard-euro.

[263] These are the regions Other outside Europe (see Table 6.3) and the UK, Ireland, Denmark, Sweden and Finland.

[264] Statistics Netherlands StatLine, *Prognose bevolking; kerncijfers, 2019-2060*, retrieved 26-12-2020 from: https://opendata.cbs.nl/statline/#/CBS/nl/dataset/84645NED/table?dl=4871B

[265] Adjusted for economic forecasts by the CPB and policy changes regarding, for example, the state pension age.

[266] For the population forecast for 2020, these data were not available at the time of writing, see Statistics Netherlands StatLine *Prognose immigratie en emigratie; achtergrond, 2017-2059*, retrieved 24-12-2020 from: https://opendata.cbs.nl/statline/#/CBS/nl/dataset/83793NED/table?dl=3F3FC

annually. In addition, it is assumed that the size of asylum and family immigration[267] from Asia and Africa will keep pace with the population growth in the main regions of asylum origin.[268] The UN population forecast for 2019 has been used here. According to the United Nations, population growth up to 2040 will be particularly strong in the two main regions of asylum origin, West Asia (+27%) and Africa (+56%).

In principle, the contraction scenario is also based on the base scenario. In addition, it is assumed that the immigration policy is as selective as possible with regard to the net contribution. This implies a reduction compared to the base scenario of immigration for combinations of motive and region of origin with a low net contribution. For the net contributions, Table 6.3 has been taken as the starting point, on the understanding that in the case of immigration from the European Union and Asia, the motives for labour and family immigration in sub-regions are also taken into account.

In concrete terms, the contraction scenario has been completed as follows. Labour immigration is assumed to be the same as the baseline scenario for the Western regions (with the exception of the CEE countries) and for Latin America (with the exception of Suriname) and Asia (with the exception of West Asia). Labour immigration from the CEE countries, Suriname and West Asia, like labour immigration from Turkey, Morocco and the rest of Africa, has been set at 10% of the size in the base scenario due to a negative net contribution. The extent of study immigration has also been set at 10% of the basic assumption, except for study immigration from the EU, the Anglo-Saxon countries and Japan due to a positive balance and – because of the historical ties – also for study immigration from Suriname.[269]

For family immigration, it is assumed to be 50% of the base scenario, with the exception of family immigration from Northern Europe (UK, Ireland, Denmark, Sweden and Finland), for which no reduction is assumed due to a positive balance. Due to very high costs, asylum immigration has been set at 10% of the base scenario in all cases.

In the collective category other/unknown, a distinction is made between the two immigration motives. Immigration with other motive has been set at 50%, with the only exception being the region Other outside Europe (North America, Oceania and Japan) for which no reduction has been applied due to a positive balance. Immigration with an unknown motive – including, for example, many people with Dutch nationality – is the same as in the base scenario. Immigration from Aruba and the (former) Antilles in practice all falls into this category and therefore remains unchanged.

[267] The assumption here is that family migration is mainly growing due to increased asylum migration. Therefore, the same growth is assumed for asylum and family migration. For Asia, family migration and asylum migration are about the same in 2019, for Africa, family migration is about a third larger in 2019. It is therefore no exaggeration to assume the growth in asylum migration and family migration to be equal.

[268] For Africa, population growth in Africa excluding Morocco has been used. For Asia, based on historical data for the period 1995-2017, it has been assumed that 92.7% of asylum migration will come from West Asia and a weighted average of the population growth in West Asia and the rest of Asia has also been taken on the basis of this assumption. Calculation based on: United Nations, Department of Economic and Social Affairs, Population Division (2019)

[269] Students from Suriname, for example, are equated with Dutch students in terms of tuition fees – just like students from the EEA and Switzerland, Bolhaar, J., S. Kuijpers & A. Nibbelink Planbureau, C. (2019), pg. 5

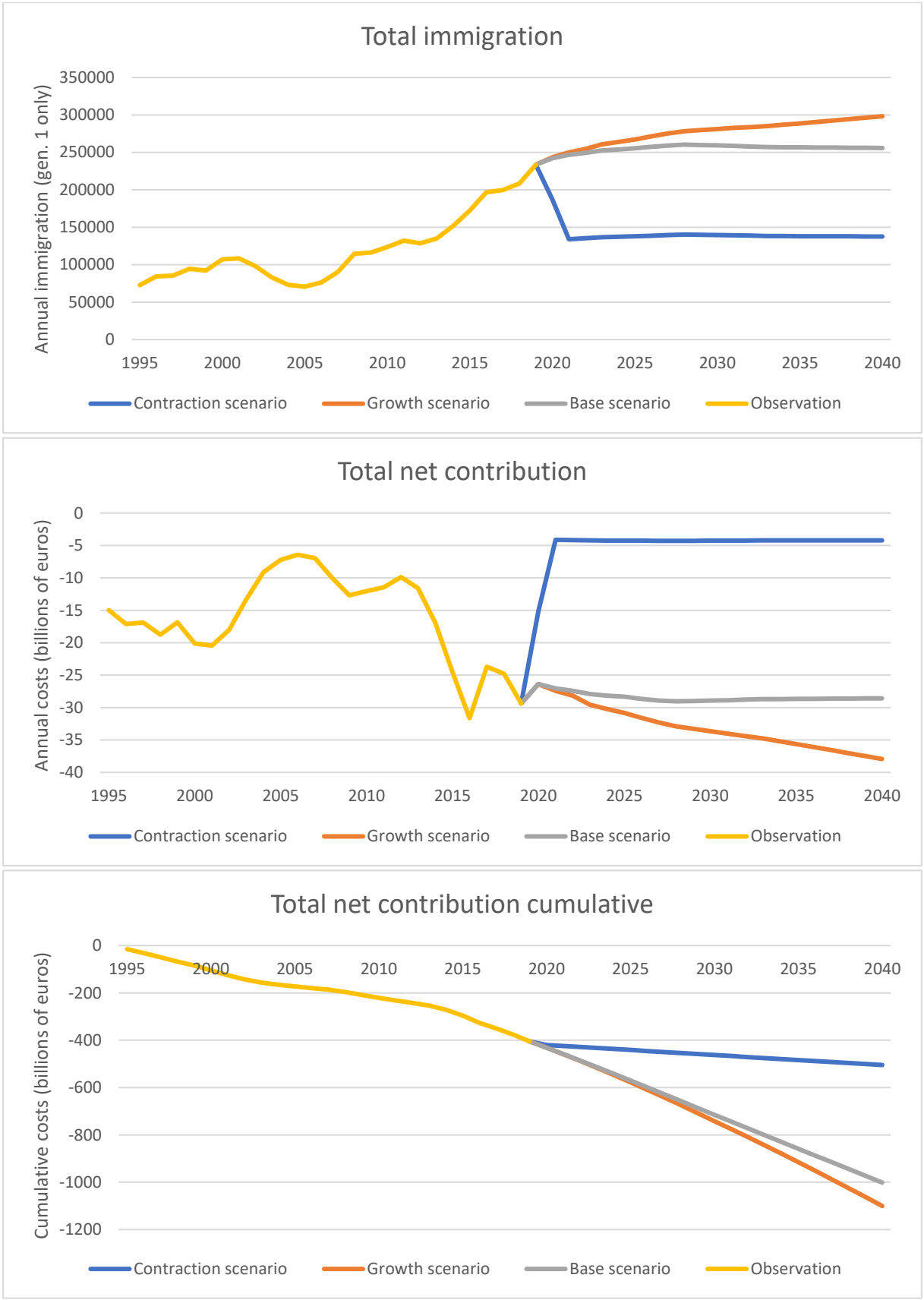


Figure 7.12 Number of first-generation immigrants for three scenarios (above). Annual (middle) and cumulative (bottom) net contribution of first-generation immigrants and their children for three scenarios. Up to 2020 observations, from 2020 forecast. Source: Our own calculation based on CBS StatLine and microdata.

The contraction scenario will not be easy or quick to convert into policy. It also ignores all sorts of subtleties such as differences within regions or the fact that selection for net contribution is likely to increase the average net contribution. The contraction scenario (with the exception of study immigration from Suriname) is based on the calculations in Chapter 6. The choices for selection are based on this. It is certainly not the intention to suggest that this should necessarily be the desired composition according to regions of origin of future selective immigration policy. The policy relevance of the contraction scenario lies mainly in the fact that it provides insight into the potential magnitude of the positive effect of selective admission policy on government finances.

The development of the annual immigration and the annual and cumulative net contribution is shown for all three scenarios in Figure 7.12. This concerns immigration and not the migration balance, because the remigration probabilities are already included in the calculation of the net contribution. Furthermore, it only concerns immigration of persons with a first-generation immigration background, because the net contribution of the second generation is also already included in the calculation of the net contribution. Note that according to the base scenario, immigration (Figure 7.12 above) is more or less constant from 2020. In the growth scenario, too, the increase in the number of immigrants lags behind the trend over the period 2005-2020 or 1995-2020. Both scenarios therefore certainly do not show a trend break in the upward direction. In the contraction scenario, immigration falls back to the level around the year 2010.

None of the scenarios yields a positive balance for any year (Figure 7.12 middle). The annual net costs in the base scenario are 29 billion euros. In the growth scenario, the annual net costs will gradually increase to 38 billion euros in 2040. In the contraction scenario, the annual net costs fall to 4 billion euros within a few years.

Table 7.3 Total net contribution from immigration, 1995-2019 (observation) and 2020-2040 (forecast) in billions of euros. Source: Our own calculation based on Statistics Netherlands StatLine and microdata.

		Scenario		
Period	Observation	Basis	Contraction	Growth
1995-2009	-209			
2010-2019	-196 +			
Total 1995-2019	**-405**	**-405**	**-405**	**-405**
2020-2040 (forecast)		-597	-100	-695 +
Total 1995-2040 (including forecast)		**-1,001**	**-505**	**-1,1**

The total net costs are shown in Figure 7.12 (below) and Table 7.3. For the sake of readability, these amounts are rounded up to multiples of 100 billion in the main text. The net costs for the period 1995-2019 amount to 400 billion euros, half of which in the last 10 years. In the baseline scenario, an additional 600 billion euros in costs will be added up to and including 2040. The total costs for the entire period 1995-2040 in that scenario amount to 1,000 billion euros. In the growth scenario, the additional costs from 2020 will be rounded off at 700 billion euros, bringing the total costs to 1,100 billion euros. The extra asylum immigration from Africa and Asia and the extra labour immigration from the CEE countries, together with the additional family immigration, entail an additional cost of 100 billion euros compared to the base scenario, of which 64 billion euros is for asylum. In the contraction scenario, the additional costs from the year 2020 will still amount to 100 billion euros.

The essential and obvious observation is that an increase in immigration, with the same composition by region of origin, immigration motive and with the same cost-benefit structure, will always lead to an increase in the annual costs of immigration. Due to the high costs per person, especially in the case of asylum migration, the costs of immigration will increase sharply with a moderate increase in the number of asylum migrants. By changing the composition according to region of origin and immigration motive, it is possible to increase immigration without significantly increasing costs.

Even in a scenario that is based on an admission policy that is much stricter than the current legal frameworks allow, immigration is loss-making for the Dutch treasury. The assumptions regarding selectivity in the contraction scenario described above are quite strong, including a halving of family immigration and a reduction of asylum immigration by 90% for most regions of origin. The labour immigration allowed in this scenario comes mainly from Western countries (excluding the CEE countries), Asia (excluding the Middle East) and Latin America (excluding Suriname) and has been reduced to 10% of the current level for all other countries due to the net costs. Yet even under those stringent requirements, immigration as a whole is still loss-making for the treasury. ↲

In order for immigration to work out positively for the Dutch treasury, it is necessary not only to manage the numbers, but also to strictly select people based on human capital, in particular education level. That is in essence what classic immigration countries like Canada and Australia aim to do with their admission policies: influence the 'mix of immigrants' in such a way that their arrival has a favourable effect on the host country. National (economic) self-interest is much more an accepted criterion and – unlike in the Netherlands – research into the economic effects of immigration is fairly generally accepted. These countries also have much more space than the Netherlands, so that population growth does not quickly lead to congestion and the like. Due to a favourable geographical location in relation to unstable world regions, they also have more options to manage expensive asylum immigration. In short, the traditional immigration countries have more options than the Netherlands to absorb immigrants and to steer them through selection to achieve a favourable outcome for the treasury. Moreover, due to the extensive, relatively accessible welfare state, the Netherlands is expected to have to select even more strictly than the traditional immigration countries in order to be able to maintain the current arrangements. ↲

The net costs of immigration are mainly the effect of the redistributive effect of the welfare state towards low-skilled immigrants and, for the time being, policymakers seem to be choosing de facto to absorb those costs by phasing out the welfare state. The calculation in the current report is predominantly based on a cross-section of the population for the year 2016. However, the pattern of costs and benefits is not static. The net costs can mainly be traced back to the redistributive function of the government, which performs its work through the fiscal authorities and the welfare state. The system of progressive taxes, means-based allowances and benefits ensures a redistribution from high to low incomes. Many immigrants have a low level of education and income. In the calculation, the net costs have been allocated to the year of immigration, but the vast majority of those costs are only have an effect on public finances after immigration. When it comes to costs for old age they usually do not occur until much later. This means that the net costs of immigration will increasingly burden the government budget over time (see §7.1). As long as policymakers are not committed to a restrictive and selective immigration policy, there is only one other option to keep the costs of immigration bearable, namely less redistribution. This can be done by gradually reducing the welfare state further – a process that is in fact already underway. ↲

8 Specification of the costs and benefits of immigration for the government

By Jan van de Beek

8.1 Introduction

The main aim of this study is to determine the fiscal effects of immigration using generational accounting. Generational accounting is based on a large number of cost and benefit items. Some of them are of decisive importance because of their size and/or the fact that they can differ greatly between groups. In order to gain insight into the origin of the observed differences between population groups, this chapter examines the various items.

Table 8.1 Totals for 2016, of 23 cost and benefit items, for the entire population and broken down by immigration background, in absolute amounts (billions of euros) and relative (per capita) compared to native Dutch people (%), as well as the population size (× 1,000 people) by immigration background, being the population on 1 January 2016 plus 171 thousand 0-year-olds born or immigrated in 2016. Our own calculation based on Statistics Netherlands StatLine and Statistics Netherlands microdata. The macro amounts for the entire population are partly based on CPB data.

				With immigration background					
		Total	Dutch	Western		Non-Western		Total	
	Population size (× 1000)	**17,150**	**13,352**	**1,671**	**(10%)**	**2,127**	**(12%)**	**3,798**	**(100%)**
	REVENUE – EXPENDITURE	**-1.2**	**16.1**	**0.9**		**-18.2**		**-17.3**	
Nr.	**TOTAL EXPENDITURE**	**299.9**	**229.6**	**28.2**	**(98%)**	**42.1**	**(115%)**	**70.4**	**(108%)**
1	Public administration	67.3	48.2	6.6	(100%)	12.7	(165%)	19.0	(141%)
2	Defence	6.9	5.3	0.7	(100%)	0.9	(100%)	2.0	(100%)
3	Education	27.8	20.8	2.0	(73%)	4.9	(149%)	7.0	(117%)
4	Child benefit/student grants	5.2	3.8	0.4	(75%)	1.1	(179%)	1.0	(136%)
5	Disability/sickness benefit	13.4	10.2	1.3	(96%)	2.0	(125%)	3.0	(113%)
6	Unemployment	8.0	6.2	0.9	(116%)	0.9	(88%)	2.0	(100%)
7	Social assistance/ANW	7.4	3.2	0.8	(106%)	3.4	(648%)	4.0	(445%)
8	Social security residual	17.2	13.4	1.7	(103%)	2.1	(100%)	0.0	(102%)
9	State pension	36.9	32.1	3.5	(99%)	1.3	(26%)	4.9	(53%)
10	Transfers abroad	10.5	8.2	1.0	(100%)	1.3	(100%)	2.3	(100%)
11	Subsidies/allowances	9.4	6.2	1.0	(106%)	2.2	(227%)	3.2	(182%)
12	Healthcare	65.2	53.1	6.2	(97%)	6.0	(71%)	12.1	(80%)
13	Gross invest. buildings	8.5	6.6	0.8	(100%)	1.1	(100%)	1.9	(100%)
14	Gross invest. infrastructure	10.1	7.8	1.0	(100%)	1.2	(100%)	2.2	(100%)
15	Gross invest. schools	5.9	4.5	0.4	(77%)	1.0	(144%)	1.5	(116%)
	TOTAL REVENUE	**298.8**	**245.7**	**29.1**	**(100%)**	**24.0**	**(61%)**	**53.1**	**(76%)**
16	Wage and income taxes and social premiums	153.2	125.9	15.5	(104%)	11.8	(59%)	27.0	(76%)
17	Other direct taxes households	7.9	6.5	0.8	(104%)	0.6	(59%)	1.4	(76%)
18	Inheritance tax	1.7	1.5	0.1	(79%)	0.1	(26%)	0.2	(45%)
19	Corporate income and div. tax	21.8	19.2	1.7	(81%)	0.8	(26%)	2.5	(46%)
20	IRN (indirect tax like VAT etc.)	68.1	55.0	6.8	(102%)	6.3	(72%)	13.1	(84%)
21	IRN from companies	16.1	14.2	1.3	(81%)	0.6	(26%)	1.8	(46%)
22	Net land sales	2.3	1.8	0.2	(100%)	0.3	(100%)	0.5	(100%)
23	Non-tax resources residual	27.8	21.6	2.7	(100%)	3.4	(100%)	6.2	(100%)

In order to align with a classification used by the CPB Netherlands Bureau for Economic Policy Analysis (CPB), the various sub-items have been combined into the 23 cost and benefit items shown in Table 8.1. This table shows the totals for each of these items for the year 2016, both for the entire population and broken down by immigration background. As explained in §7.1, such a snapshot (static approach) can be highly biased due to differences in age structure. This is also the case for the Netherlands. In particular, non-Western immigrants have a relatively young age structure, which is one of the reasons why certain items such as state pension[270] and healthcare are relatively low. Items related to the youth phase, such as education[271], are actually higher, partly because of the age structure. The relative size of the amounts compared to native Dutch people is shown in the last column in Table 8.1.

Furthermore, the differences between Western and non-Western immigrants are striking. Western immigrants contributed 0.9 billion euros overall in 2016 and non-Western immigrants received 18.2 billion euros. Western immigrants are much more similar to native Dutch people in terms of costs and benefits than non-Western immigrants. In terms of age structure, the differences between Western immigrants and the native Dutch people are also relatively limited, so that, for example, the use of the state pension is almost equal to that of the native Dutch population.

On the expenditure side, the costs for public administration are also relatively high. First of all, this is because the considerable costs for the Immigration and Naturalisation Service (IND) and the Central Agency for the Reception of Asylum Seekers (COA) in 2016 have been allocated to public administration. These costs have been allocated to the first generation and are largely attributed to non-Western immigrants. The sub-item security (police, justice and crime) also falls under public administration. The costs of security are much higher for people with an immigration background because the number of suspects per 10,000 inhabitants is higher for all age groups than for native Dutch people[272]. In addition, the average passage through the criminal justice system turns out to be more expensive for immigrants, partly because of the more frequent imposition of expensive prison sentences[273]. Here too, the young age structure of especially non-Western immigrants distorts the picture because young people (with and without an immigration background) simply commit crimes more often than older people.

On the expenditure side, the relatively high costs for benefits are particularly striking for non-Western immigrants, with social assistance in particular standing out. The exception is unemployment benefits, which are relatively high for Western immigrants. This is partly related to benefit fraud (see §8.6). Another possible explanation could be commuter immigration of labour immigrants within the EU, although this would require further investigation. Non-Western immigrants make relatively little use of unemployment benefits. However, this is less favourable than it seems, in part due to low employment rates and relatively high dependence on other benefits. Finally, the allowances received by non-

[270] This is partly a distortion because the first generation has not always built up sufficient state pension, which is supplemented by social assistance benefits. The actual costs are therefore higher than is expressed in the amount for AOW. The average for January and December 2016 was 2.7% for native Dutch people and 13.9% for immigrants Statistics Netherlands StatLine, *Personen met bijstand; persoonskenmerken*, retrieved 27-12-2020 from: https://opendata.cbs.nl/statline/#/CBS/nl/dataset/82016NED/table?dl=47859

[271] As will become apparent, the costs of education for immigrants are often higher, also calculated over the life course.

[272] Statistics Netherlands StatLine, *Verdachten; geslacht, leeftijd, migratieachtergrond en generatie*, retrieved 25-12-2020 from: https://opendata.cbs.nl/statline/#/CBS/nl/dataset/81959NED/table?dl=48730

[273] A Statistics Netherlands customized table was used for these differences, see §8.12 and the Technical Appendix.

Western immigrants are also relatively high. In the case of income-related schemes, this is mainly due to a low average income.

Which brings us to the revenue side of Table 8.1. The item wage and income taxes and social premiums is relatively low for people with a non-Western immigration background because of a low average income, despite the overrepresentation in the working age group. This is partly related to a low level of education and low labour participation (see Chapter 9). A low income also depresses the payments of taxes classified under the IRN item in Table 8.1, which mainly include indirect taxes such as VAT. Furthermore, immigrants pay relatively few taxes associated with business ownership, such as corporate income tax and dividend tax. This concerns direct ownership (such as partners in a company), but mainly pension assets invested in shares. On average, immigrants are less wealthy than people with a Dutch background and have lower pension assets. The young age structure also plays a role for non-Western immigrants. A lower capital structure, in combination with the young age structure, also results in low inheritance tax payments.[274]

The revenue side in particular shows a difference between the native Dutch population and non-Western immigrants. Expenditure for non-Western immigrants is 115% of that of native Dutch people. That amounts to approximately 5 billion euros higher expenditure on non-Western immigrants than could be expected on the basis of the numerical relationships between the population groups. The incomes of non-Western immigrants are only 61% of the native Dutch people and that amounts to 13 billion less in government revenues. Of the total net effect on public finances of 18 billion euros of non-Western immigrants, about 70% relates to the revenue side. Table 8.1 is a representation of the static approach – a snapshot – whereby, among other things, the young age structure produces distortion. However, calculation shows that also in the dynamic approach about 70% of the difference between first-generation immigrants and native Dutch people is determined by the revenue side. On average, non-Western immigrants have a low average income and therefore pay relatively few premiums and taxes (see also §8.13), which has a greater impact on the net contribution than a high consumption of allowances, benefits or care. This applies to many non-Western immigrants, but also, for example, to immigrants from Central and Eastern Europe.

Just because immigrants work does not mean that they automatically make a positive net contribution to the treasury, as the immigration from Central and Eastern Europe shows. This belies the sometimes-heard notion that 'it will be fine as long as the immigrant works'. Groups with a relatively high participation rate and a relatively low use of benefits can also make a negative net contribution. This applies in particular to groups with a low level of education and income and who therefore receive a relatively large amount of income-related allowance and pay relatively little in taxes and contributions. Work is of course very important in many respects, but from a purely fiscal point of view it is not always enough for a positive net contribution. Immigration from Central and Eastern Europe, for example, falls into this category. ↲

[274]The inheritance tax is attributed to the person who dies and not to the receiving party. However, its age dependence is based on a CPB profile, which gives a fairly even distribution over ages. The use of a profile based on the CBS table population would perhaps be more logical, but this has been abandoned due to excessive sensitivity to age structure when, for example, mortality probabilities change. See also the Technical Appendix.

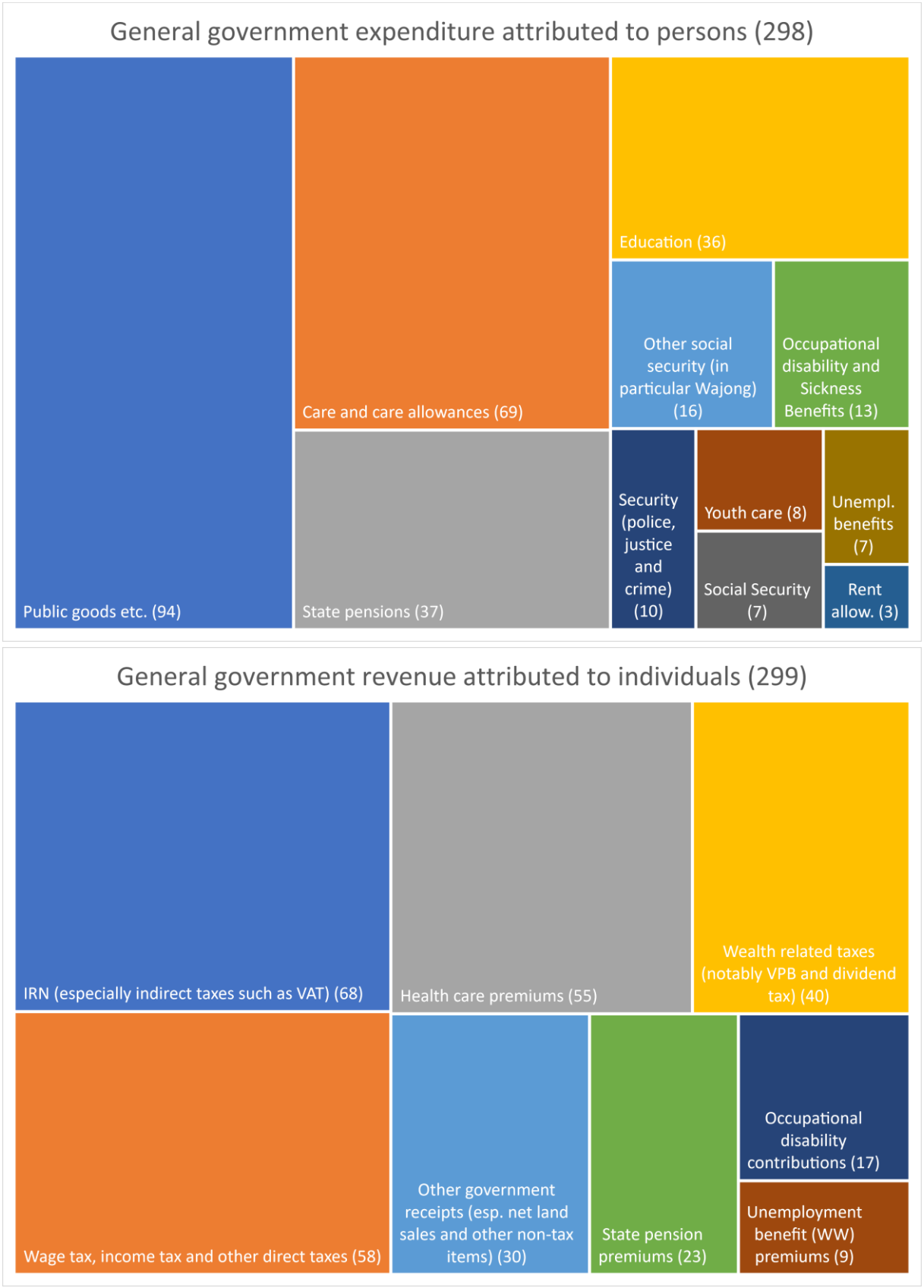


Figure 8.1 Government expenditure and revenue attributed to individuals, 2016 (amounts in billions of euros). Source: Our own calculation based on Statistics Netherlands StatLine and Statistics Netherlands microdata.

In the remainder of this chapter, the 2016 snapshot of Table 8.1 is not relevant, but the sub-items over the entire life course are considered. In fact, the share of the net contribution as calculated in Chapter 6 is examined per sub-item. In order to do this in a somewhat comprehensible manner, the 23 items have been split up and/or combined into a smaller number of items: Education, Youth, Housing benefit, Unemployment, Disability, Social assistance, Other social security, State pension, Healthcare, Security and a residual item consisting of Taxes minus Public goods (see also Table 8.4).

The primary purpose of showing the results in the rest of this chapter is to compare the different origin groups with each other and with native Dutch people, in order to gain insight into the underlying causes of group differences in net contribution. This is extremely policy-relevant because it provides tools to manage the net contribution of future immigrants. In the discussion in this section, the main differences between the regions of origin are discussed. The world is divided into 42 regions of origin, including the Netherlands for native Dutch people. The results are therefore often shown in the form of world maps. For the Netherlands – unless otherwise stated – the value is given of the native Dutch reference, the hypothetical immigrant with the immigration behaviour and pension accrual of the average immigrant and furthermore the properties of the average native Dutch person.[275] This value is used in the legend of the maps as a reference value (the shades of yellow). For more explanation, see the Glossary under the heading *Native Dutch reference*.

Figure 8.1 shows the main government revenues and expenditures. The amounts given are broadly in line with the 2016 national budget, although a number of items have been rearranged for the purpose of discussion in this chapter.[276] In the discussion in the relevant section, it is always explained from which sub-items each item is composed.

A comparison between the revenue and expenditure in Figure 8.1 shows that the premiums for state pensions and healthcare are lower than the costs for state pensions and healthcare. The premiums for the items unemployment and disability/sickness do cover the costs. For the items healthcare, unemployment, disability and pensions, the premiums paid have been deducted from the amounts received, in order to find out to what extent immigrants make a net contribution.

In the remaining sections of this chapter, the expenditure items will first be reviewed. In principle, one section has been devoted to each item for expenditure, but a separate section has been devoted to the degree of benefit dependency in a general sense (§8.5). The last section examines the so-called public goods and government revenue and the most important group differences in taxes paid and personal income. All amounts in the rest of this chapter are expressed in euros of 2016 (discounted).

8.2 Education

Education is an important cost item in terms of size. This includes various sub-items, including education itself, student grants[277] and gross investments in schools. In the case of young people up to the age of 18, education is the only item besides healthcare that is important in terms of group differences,

[275] See the Glossary.
[276] In principle, the amounts are based on or derived from the national budget and the national accounts. However, the amounts may deviate from the amounts in the National Budget and/or the National Accounts because they are based on Statistics Netherlands microdata and/or because sub-items are arranged differently.
[277] Student grants under the Student Grant Act (*Wet studiefinanciering*, WSF).

because the other items are either zero or are general government expenditures such as defence and public administration that are equally allocated to all residents.

In education up to the compulsory school age, the differences between groups are mainly caused by three things: the degree of participation in government-funded education, the so-called pupil weights of primary school pupils and the percentage of pupils that participate in relatively expensive forms of education. From the age of 18, the degree of participation in secondary and higher education and the receipt of student grants play a role.

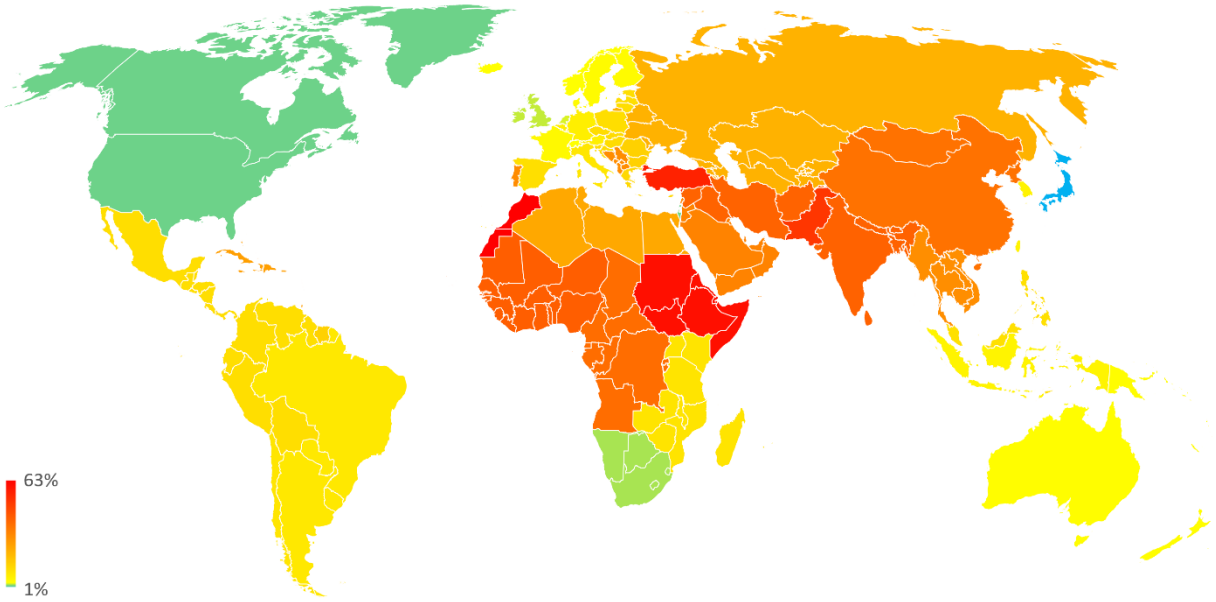


Figure 8.2 Average pupil weight of primary school pupils by immigration background, weighted by the proportion of children born abroad (first generation) and the proportion of children born in the Netherlands (second generation), 2010-2014. Source: Our own calculation based on Statistics Netherlands StatLine and Statistics Netherlands microdata.

The degree of participation in government-funded education is slightly lower among people with an immigration background than among the native Dutch population[278]. This is partly due to immigration or emigration. In that case, the immigrant is not yet present in the Netherlands on the reference dates used for educational participation, or is no longer present.[279] Other possible causes of the difference with the native Dutch population are participation in non-government-funded education (such as international private schools) and leaving school early. Furthermore, among adult education participants there are quite a few students from outside the European Economic Area (EEA) for whom the government does not pay for higher education at all. The costs for education are naturally lower for these students.

[278] For example, for primary school age (4-12 years), the participation of immigrants is 97% of the participation of native Dutch people. This is mainly due to a lower participation of first-generation children. Our own calculation based on Statistics Netherlands microdata.

[279] The reference dates for educational participation are 1 October 2015 (two thirds of the amount) and 1 October 2016 (one third of the amount), while the reference date for inclusion in the research population is 1 January 2016. As a result, for example, people who immigrated between 1 October 2015 and 31 December 2015 and people who emigrated between 1 January 2016 and 1 October 2016 are not included for two thirds and one third respectively.

The pupil weights depend on the educational level of the parents and determine whether primary schools receive extra money for a child. There are three weights: 0 (no extra funding), 0.3 (30% extra funding) and 1.2 (120% extra funding). In practice, one should think of amounts ranging from €2,000 to €7,500 extra funding per child per year,[280] of which on average about half[281] is actually paid out to the schools[282] due to the calculation system. The degree of payment partly depends on the proportion of children of low-educated parents in the school concerned. Schools with a high percentage of low-educated parents receive relatively the most money.

Figure 8.2[283] shows that the pupil weights can differ greatly between the regions of origin. The yellow colours represent regions of origin for which the pupil weight for the second generation is close to the average for native Dutch people (3%).[284] The orange and red colours indicate the regions of origin with relatively high pupil weights. The pupil weight is highest for Pakistan (51%), Turkey (55%), the Horn of Africa and Sudan (59%) and Morocco (61%). In practice, primary schools for pupils with this background receive about a quarter more funding than for a child with a Dutch background.

The pupil weight can be used as an approximation for the educational level of the parents. In only a few regions – Israel, Japan, South Africa, North America and the British Isles – the parents of immigrant children are better educated than native Dutch people (blue and green colours) based on pupil weight, and in Switzerland, Scandinavia and Oceania the educational level is almost the same. In the majority of the regions of origin in Africa and Asia, the parents are much less educated than native Dutch people, based on the pupil weight of the parents.

Table 8.2 Average costs of government-funded education per participant, as well as the number of participants, by type of education, during the 2016 calendar year. The costs for primary education do not include the additional costs for the pupil weight. Source: Our own calculation based on Statistics Netherlands StatLine and Statistics Netherlands microdata.

Type of education	Education costs	N
Primary education	€6,314	1,232,630
Primary special education (SO) / secondary special education (VSO)	€12,653	81,554
Practical education (PRO) / Learning support education (LWOO)	€11,664	97,179
Secondary education (VMBO, HAVO, VWO)	€7,553	695,531
Secondary vocational education (MBO)	€8,067	369,380
Higher vocational education (usually bachelor level) (HBO)	€6,796	326,450
University education at bachelor level	€6,839	108,561
University education at bachelor level	€6,516	58,716

[280] Primary education costs more than €6,300 per child per year and there are two weights, namely 0.3 and 1.2.
[281] The formula used to determine the number of 'virtual pupils' for which the school is additionally funded on the basis of pupil weight, is based on a threshold value of 6% of the number of pupils enrolled at the school in question. This applies to the year under review, the calculation system is subject to change. See also the Technical Appendix.
[282] In the calculation for the current report, more than 40% of the amount has been allocated to individuals, see also the Technical Appendix.
[283] In line with the method of Chapter 6, weighting was carried out for the share of children born abroad (first generation) and the share of children born in the Netherlands (second generation) of first-generation immigrants, taking into account their number of children and immigration behaviour.
[284] For the population as a whole this is 9%.

Furthermore, there may be group differences when it comes to participation in relatively expensive forms of education. Table 8.2 shows that some forms of education are significantly more expensive than others. When it comes to vocational education and higher education, it is striking that secondary vocational education in particular is relatively expensive per year. However, the biggest differences are in primary and secondary education. Special primary education is twice as expensive as regular primary education; the difference is about €6,000 per child, per year. Secondary special education is just as expensive as special primary education, which means that the difference between special and regular secondary education is approximately €5,000 per child per year.

Practical education – a form of secondary education for children with learning disabilities and a 'difficult learning intelligence profile', see Glossary – is also significantly more expensive. The difference between it and (regular) secondary education is approximately €4,000. The same difference applies to learning support education (LWOO), a form of education with extra attention that is usually offered at the practical VMBO-B level[285].

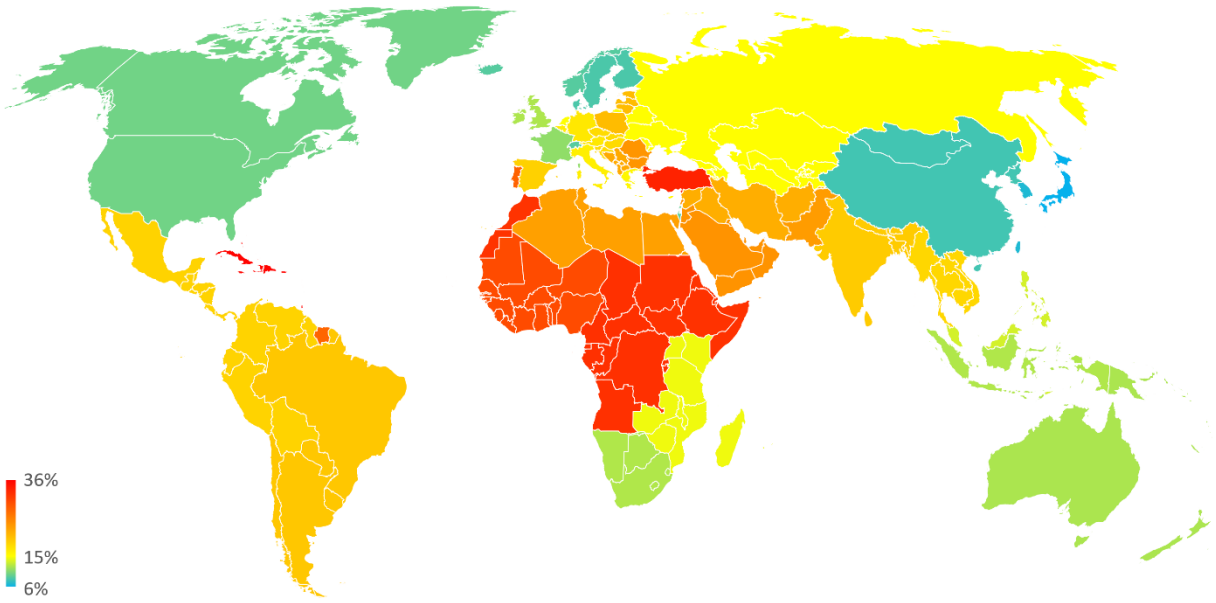


Figure 8.3 Total share of Practical Education (PRO), Learning Support Education (LWOO) and Secondary Special Education (VSO) among 15-year-olds by immigration background, weighted per origin group by the share of children born abroad (first generation) and the share of children born in the Netherlands (second generation), 2016. Source: Our own calculation based on Statistics Netherlands StatLine and Statistics Netherlands microdata.

Figure 8.3[286] shows that the total percentage of special education, learning support education and practical education students can vary considerably per region of origin. For immigrants from, for example, the former Soviet Union and East Africa, this percentage is approximately at the level of native Dutch people (15%, shades of yellow). For immigrant children from East Asia, the East Indian

[285] The basic and middle-management vocational programmes are the two most practical and least theoretical pathways in the VMBO school type. Retrieved 12-1-2022 from: https://www.government.nl/topics/secondary-education/different-types-of-secondary-education/pre-vocational-secondary-education-vmbo

[286] In line with the method of Chapter 6, weighting was carried out for the proportion of children born abroad (first generation) and the proportion of children born in the Netherlands (second generation) of first-generation immigrants, taking into account their number of children and immigration behaviour.

Archipelago, Israel, Southern Africa, the Anglo-Saxon countries, Scandinavia and Switzerland (green and blue shades), the participation in these expensive types of education is relatively low. In the orange and red areas this participation is actually higher than for native Dutch people. About a third of 15-year-old students with an immigration background in the Caribbean, Aruba and the (former) Antilles, Turkey, Morocco, Central and West Africa and the Horn of Africa and Sudan attend special secondary education, practical training or learning support education.

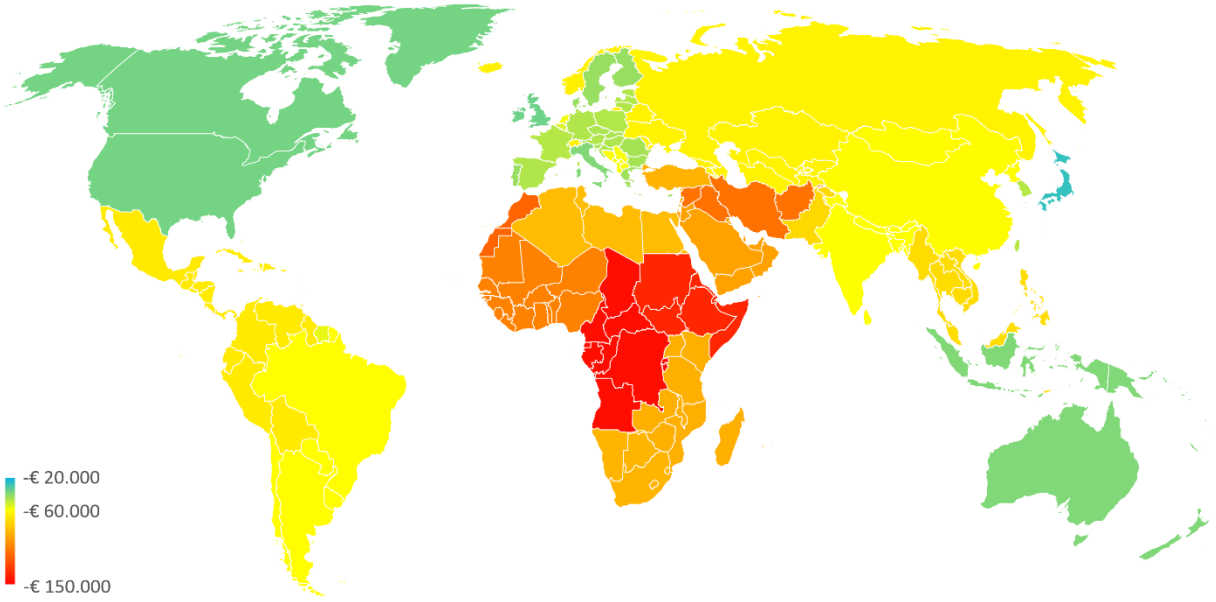


Figure 8.4 Total costs for education, student grants and gross investments in schools by immigration background, for first-generation immigrants and their children, accounting for immigration behaviour and number of children, discounted to 2016, based on data from 2016. Source: Our own calculation based on Statistics Netherlands Stat-Line and Statistics Netherlands microdata.

Figure 8.4 shows the total costs for education for the first and second generation. This includes all costs for participation in all forms of government-funded education (see Table 8.2), including government investments in schools and student grants. It has also been taken into account that the government does not fund higher education for first-generation study immigrants from countries outside the European Economic Area (EEA).

For immigrants from the yellow-coloured regions, the costs are comparable to the amount of about €58,000 that applies to the native Dutch reference – the hypothetical immigrant with the immigration behaviour of the average immigrant and otherwise the characteristics of a native Dutch person. The cost is lower for immigrant children from most Western countries, and lowest for Japan. For immigrants from the orange and red areas, the costs for education are higher than average. This applies in particular to the Middle East and Africa, which is partly due to a relatively high number of children.

In the calculation, the costs for the second generation are allocated to the first generation. The first generation mainly immigrates after school age and those who do come as children have often already received part of their education in the country of origin. The education costs for the first generation itself are therefore relatively limited, often a quarter or a third of the total for both generations. It

therefore mainly concerns the education costs for the second generation.[287] This makes the total education costs sensitive to the number of children: a higher number of children leads to higher education costs for both generations together. Because there is also remigration, the costs per first-generation immigrant, even including the costs for the second generation, are in many cases even lower than the total education costs of €91,000[288] that apply to an average child born in 2016 with a Dutch background.

8.3 Youth

The costs for childcare, child benefit, child budget and child allowance[289] are grouped under the heading Youth. The results are given in Figure 8.5. When interpreting this figure, it is important to note that the costs of child benefit are allocated to the individual child and not to the parents who receive the money. The number of children of the parents therefore has no influence on the amount of the child benefit. The number of children of the parents, on the other hand, does influence the costs of childcare, child allowance and the child budget.

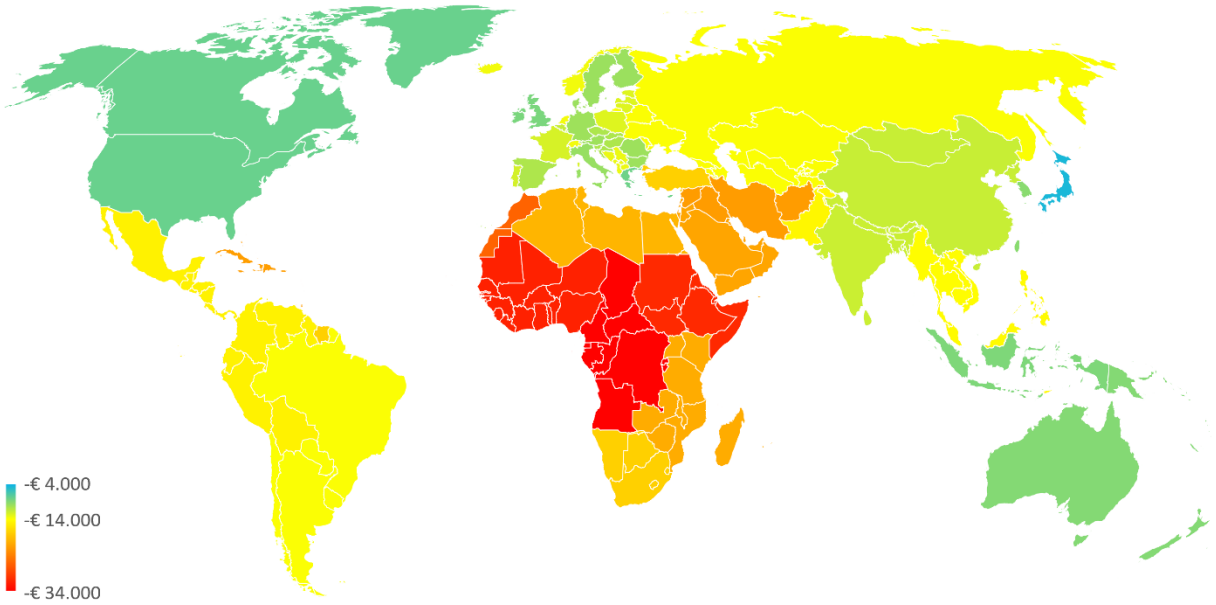


Figure 8.5 Total costs for childcare, child allowance, child budget and child supplement according to immigration background, for first generation immigrants and their children, accounting for immigration behaviour and number of children, discounted to 2016, based on data from 2016. Source: Our own calculation based on Statistics Netherlands StatLine and Statistics Netherlands microdata.

[287] The number of children of women from the first generation in the group in question was weighted here, and to avoid double counting, the children born abroad (first generation) were deducted from the total number of children. Furthermore, remigration has been taken into account and the education costs have been discounted. See further §6.1 and the Technical Appendix

[288] This is the discounted sum of all education costs, calculated over the entire life course and including the additional funding of primary education based on the pupil weight, including student grants and including the costs allocated to individuals in proportion to education participation for gross investments in schools and with correction for the fact that the government does not fund tertiary education for non-EEA students.

[289] A series of social services aimed at supporting (parents with) children.

The shades of yellow indicate regions for which the amounts correspond to the amount of - €14,000 for the native Dutch reference, the hypothetical immigrant with the characteristics of a native Dutch person. The green and blue shades indicate the regions of origin for which the amount for Youth is lower. This applies to most Western countries and a number of countries in Asia, including China and India. The orange and red shades symbolize above-average consumption in the Youth category and are mainly found in Suriname, the Caribbean, the Middle East and Africa.

8.4 Housing benefit

In this section, differences are discussed regarding housing benefit (formerly housing subsidy). Housing benefit is not only important because of the direct demand on public resources, but it also indirectly indicates the use of social housing by immigrants, among the group with the lowest incomes.

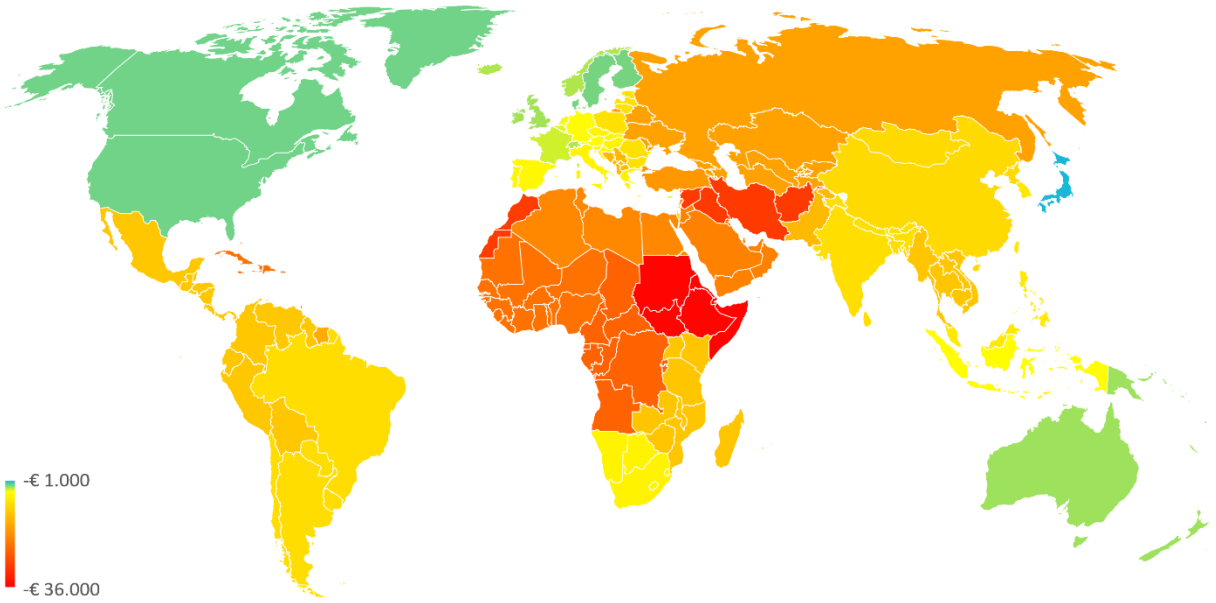


Figure 8.6 Total costs for housing benefit by immigration background, for first generation immigrants and their children, accounting for immigration behaviour and number of children, discounted to 2016, based on data from 2016. Source: Our own calculation based on Statistics Netherlands StatLine and Statistics Netherlands microdata.

The results are shown in Figure 8.6. The native Dutch reference – a hypothetical immigrant with the characteristics of the average native Dutch person – consumes about €5,000 in housing benefit on average over the course of his life. Immigrants from a limited number of Western regions – Japan, the Anglo-Saxon countries, Scandinavia, Switzerland, France, Belgium and Luxembourg – use less housing benefit (the shades of green and blue). Immigrants from the vast majority of the regions of origin have an above-average consumption of housing allowance (the orange and red shades). The claim on the housing benefit for the asylum origin region of Horn of Africa and Sudan is seven times higher (€35,000) than the amount for the native Dutch reference.

8.5 Benefit dependency

There are large differences in benefit dependency between origin groups. A compact way of expressing benefit dependency is the so-called *support ratio*, the number of benefit recipients per 100 workers[290]. This concerns unemployment benefits, social assistance, sickness benefits, disability benefits and other

[290] Strictly speaking, this is not a ratio, but multiplication by 100 increases readability.

social provisions, such as the Invalidity Benefit Scheme for Young Disabled Persons (Wajong Act). The data presented in this section relates to the age group 25 to 65 years. For the average resident of the Netherlands, this is the working, active period in which the net contribution is positive.

Table 8.3 gives the support ratio for native Dutch people and per immigration motive, broken down into Western and non-Western first-generation immigrants and two age groups, 25 to 45 years and 45 to 65 years. We restrict the discussion to the 25-45 age group. Among native Dutch people in this age group, there are 10 benefit recipients per 100 working people. It can be seen that the number of benefit recipients among labour immigrants and Western study immigrants is more favourable (i.e. lower) than among natives aged 25 to 45. For all other groups, the support ratio is less favourable (i.e. higher) than for natives. The most unfavourable is the support ratio for non-Western asylum immigrants, with 217 benefit recipients per 100 working people. Note that for all motives the non-Western support ratio is much less favourable than the Western one. Finally, for each combination of motive and origin, the support ratio for 45 to 65-year-olds is less favourable than for 25 to 45-year-olds.

Table 8.3 Number of benefit recipients per 100 working people (support ratio), by immigration motive and region of origin, for first-generation immigrants and native Dutch people, for the ages 25 to 45 and 45 to 65, 2016. Source: Our own calculation based on Statistics Netherlands microdata.

	Western		Non-Western		Total	
	Support ratio	*N*	Support ratio	*N*	Support ratio	*N*
Dutch natives						
25 to 45 year	10	2.819.076				
45 to 65 year	19	3.488.956				
Labour						
25 to 45 year	6	122.422	7	27.433	6	149.855
45 to 65 year	16	39.899	34	11.752	19	51.651
Study						
25 to 45 year	7	17.764	14	20.159	11	37.923
45 to 65 year	21	1.738	42	4.815	36	6.553
Asylum						
25 to 45 year	37	3.541	217	44.367	189	47.908
45 to 65 year	111	3.298	267	19.880	232	23.178
Family						
25 to 45 year	12	38.477	41	112.991	33	151.468
45 to 65 year	28	18.970	72	46.046	56	65.016
Other						
25 to 45 year	14	26.155	45	18.270	25	44.425
45 to 65 year	47	12.956	117	10.699	72	23.655
Total						
25 to 45 year	9	208.359	49	223.220	26	431.579
45 to 65 year	26	76.861	89	93.192	54	170.053

Figure 8.7 provides an overview of the support ratio broken down into 42 regions of origin and two age groups, 25 to 45 years and 45 to 65 years. We limit the discussion again to the group 25 to 45 years, the light blue bars in the figure. This concerns young people, for whom work incapacity and the like normally play a small role. The support ratio for native Dutch people is 10 benefit recipients per 100 working people. For immigrants from Scandinavia, EFTA, France, the GIPS countries and the Anglo-Saxon countries, support ratios are generally low: there are relatively few benefit recipients per 100 people in work.

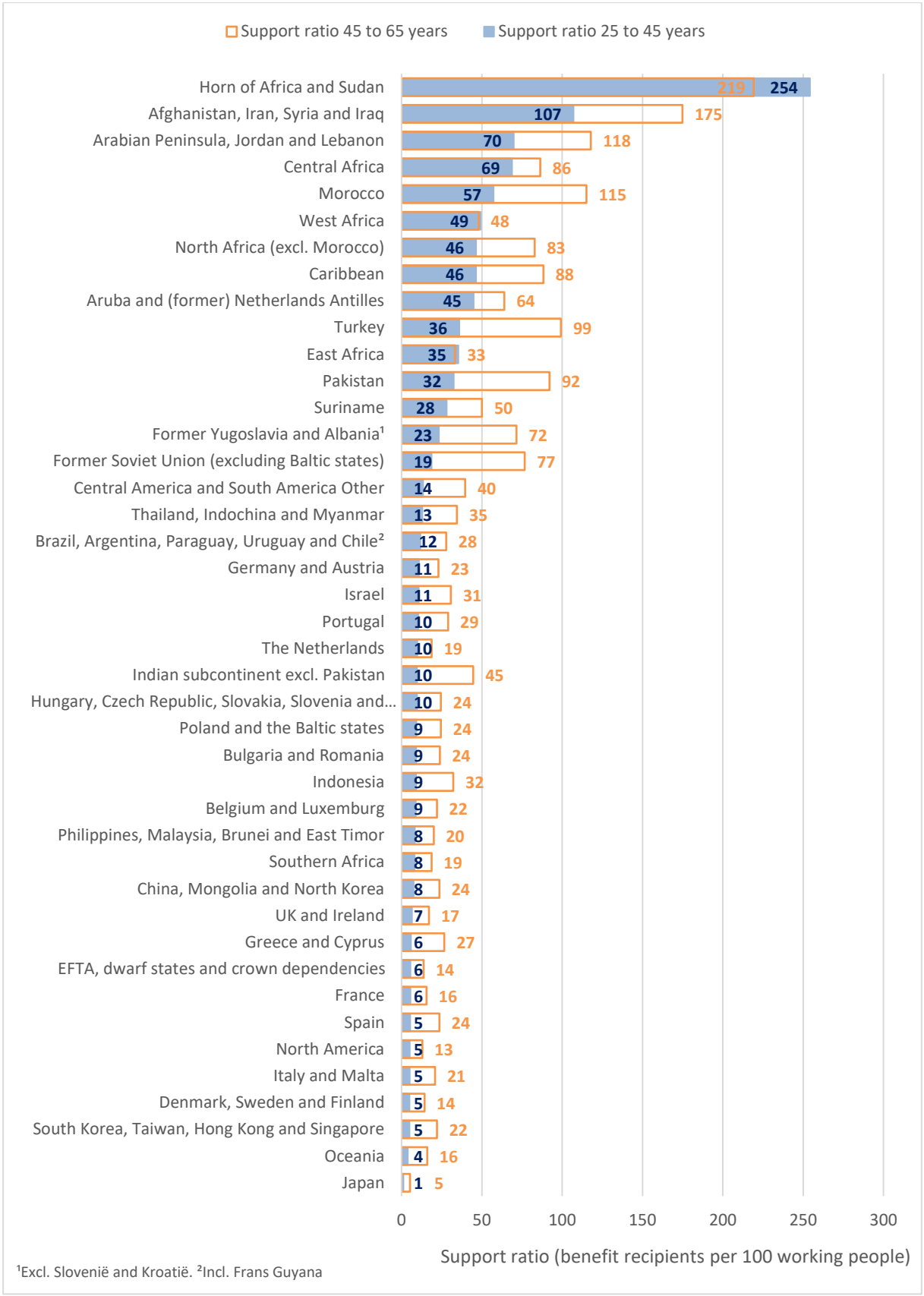


Figure 8.7 Number of benefit recipients per 100 working people (support ratio), by region of origin, for first-generation immigrants and native Dutch people, for the age groups 25 to 45 years and 45 to 65 years. Source: Our own calculation based on Statistics Netherlands microdata.

For the other Western countries of origin, support ratios are usually comparable to those for the native Dutch population. Exceptions are the European asylum origin regions of the former Yugoslavia and the former Soviet Union (roughly 20 benefit recipients per 100 working people). Among non-Western origin regions, Japan and the Asian Tigers stand out due to very low support ratios. For immigrants from Israel, South Africa, Latin America and South, East and Southeast Asia, support ratios are somewhat lower or higher than for natives.

For Suriname, Aruba and the (former) Antilles, the Caribbean and most countries in Africa and the Middle East, there are 30 to 60 benefit recipients per 100 working persons. For immigrants from Central Africa, the Arabian Peninsula, Jordan and Lebanon, there are around 70 benefit recipients per 100 working persons. Among immigrants from the main asylum origin region in Asia – Afghanistan, Iran, Syria and Iraq – the number of benefit recipients per 100 working people is 107. Thus, for that region, in the 25-45 age group, there are more people receiving benefits than people working. However, the Horn of Africa and Sudan region – where many asylum immigrants also come from – comes out on top with 254 benefit recipients per 100 workers. For these immigrants, the support ratio is about 25 times higher than for native Dutch people. As mentioned, only the 25-45 age group is discussed here. For the age group 45-65 years, the support ratio is almost always more unfavourable (higher).

8.6 Unemployment

The Dutch unemployment scheme is a collective insurance against unemployment to which employees and employers are obliged to contribute through the unemployment premiums. In principle, the unemployment benefits are financed from these premiums. This section presents the net contribution to the unemployment scheme, which consists of unemployment benefits received minus unemployment premiums paid. The premiums paid by the employer are allocated to the employees because they create the added value with their work from which the employer can pay the employer's share of the premium. This does not apply to unemployment insurance contributions paid for benefit recipients by a benefits agency which are therefore not deducted from the unemployment benefit received.

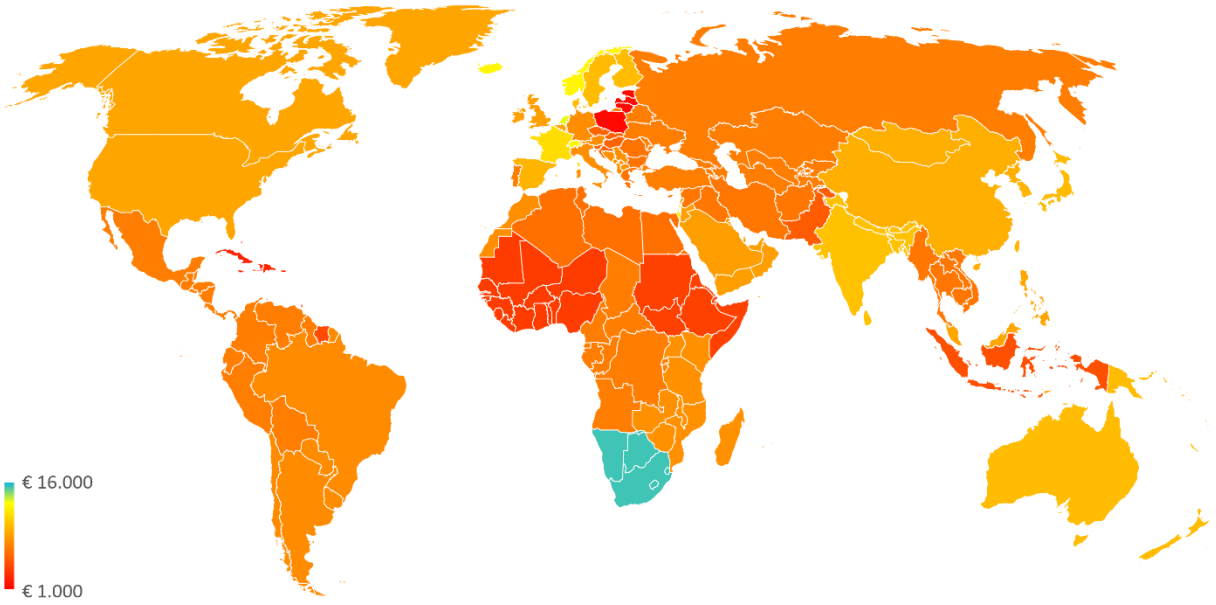


Figure 8.8 Unemployment premiums minus unemployment benefits received, excluding contributions paid by the benefits agency, for first-generation immigrants and their children, accounting for immigration behaviour and number of children, discounted to 2016, based on data from 2016. Source: Own calculation based on CBS data.

Figure 8.8 shows the total amount of unemployment premiums paid minus the amounts received in unemployment benefits. With a view to readability, the colour scheme has been deviated from: not the usual yellow tones, but green tones are equal to the contribution of the native Dutch reference, which contributes €13,000[291] more to unemployment premiums than he receives in unemployment benefits. The amount (€15,000) is larger only for the country of origin South Africa; immigrants from the other regions of origin make a smaller contribution. Immigrants from countries such as West Africa, the Horn of Africa and Sudan, Pakistan, Suriname, Aruba and the (former) Antilles and Indonesia contribute relatively little to the unemployment fund. Immigrants from the Caribbean and Poland make the lowest contribution.

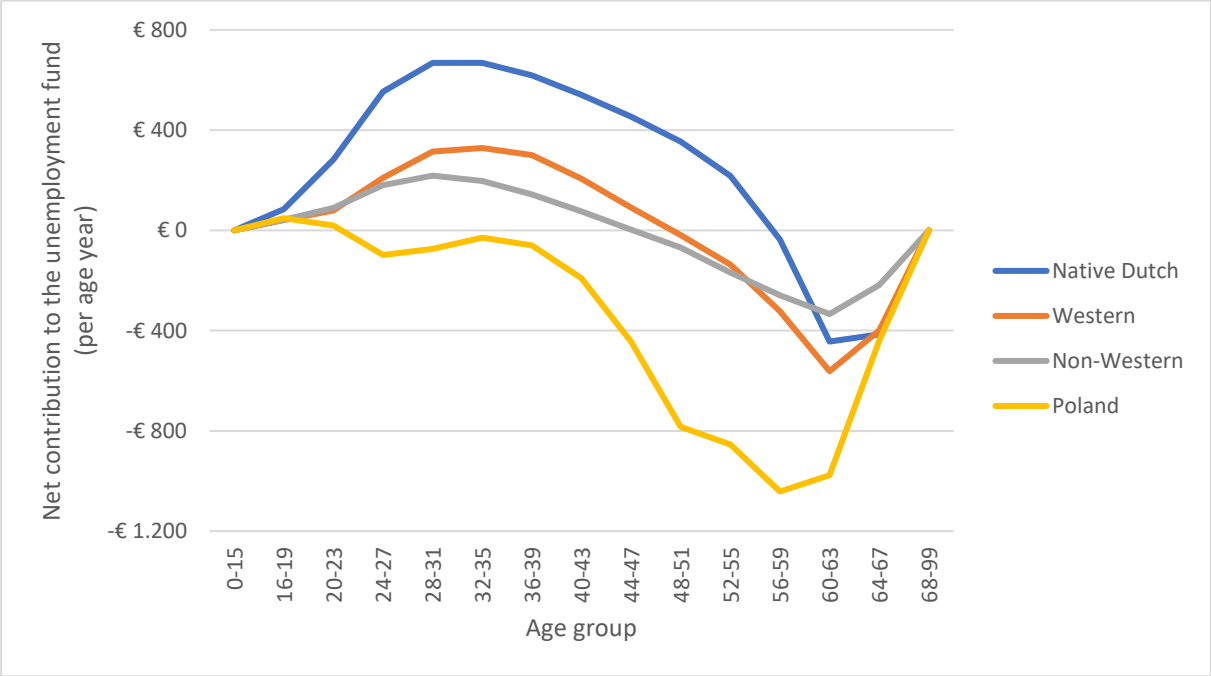


Figure 8.9. Age profile[292] for the balance of unemployment premiums minus unemployment benefits received, excluding contributions paid by the benefits agency, for native Dutch people and first-generation immigrants from a number of regions of origin, discounted to 2016, based on data from 2016. Source: Our own calculation based on Statistics Netherlands microdata.

Figure 8.9 shows age profiles for the native Dutch population and for Western, non-Western and Polish first-generation immigrants for the balance of payments of unemployment premiums minus receipts of unemployment benefits. The average native Dutch person shows a positive balance until approximately 55 years of age, after which the costs of unemployment benefits will exceed the benefits of unemployment premiums. This point is reached around age 50 for Western immigrants and around age 45 for non-Western immigrants. The line of Western immigrants is close to that of non-Western immigrants, both well below the line for the hypothetical immigrants with the characteristics of the average native Dutch person. The contrast with Polish immigrants is great: almost all of their lives,

[291] The amounts are quite high because the premiums in the reference year 2016 significantly exceeded the benefits and the development from 2016 is based on assumptions made by the CPB in which the growth of the premiums exceeds the growth of the benefits for some time, so that the balance (unemployment premiums minus unemployment benefits), grows quite strongly over this period, resulting in a positive balance for all groups. See the Technical Appendix for more information.

[292] Averages per four-year age group. For the sake of readability, the age groups that are irrelevant for unemployment benefits have been combined to 0-15 years and 68-99 years.

unemployment benefits received exceed the contributions to unemployment premiums. This is no coincidence, because during the reference year of this study (2016) there was talk of the so-called Polish unemployment benefit fraud.[293]

8.7 Disability

In the case of disability, just like with unemployment, there is a fund that is filled with employer and employee premiums. The employer's premiums are also allocated to the employees, because with their work they create the added value from which the employer can pay the employer's share. Here too, disability premiums paid by benefits agencies are not taken into account.

Figure 8.10 shows the net contribution – paid disability premiums minus received disability benefits and sickness benefits – for collective disability insurance. Reference natives – hypothetical immigrants with the characteristics of the average native Dutch person – pay €18,000 more in premiums over their life course than they receive. Shades of yellow are shown in Figure 8.10 for net contributions close to the reference value of €18,000. Greens and blues represent higher net contributions and oranges and reds represent lower net contributions. In eight of the 41 regions, the contribution to disability is greater than that of the native Dutch population. This mainly concerns Japan, China and the Asian tigers (South Korea, Taiwan, Hong Kong and Singapore), Scandinavia, France and Switzerland. Immigrants from Southern Africa contribute the most to the disability fund with €23,000.

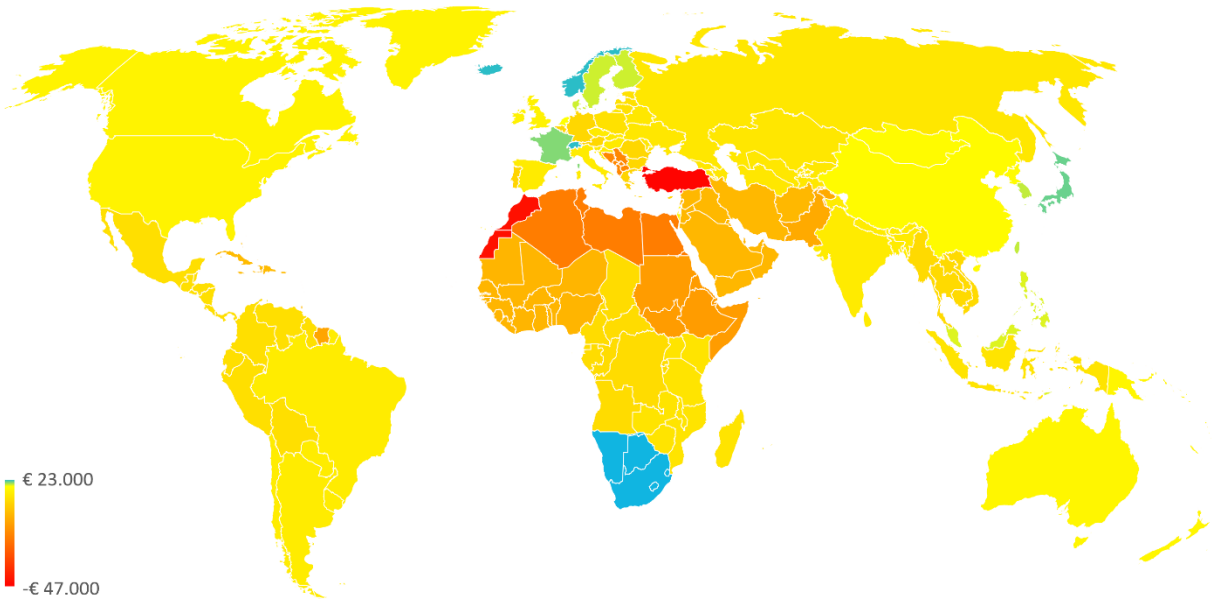


Figure 8.10 Disability premiums minus benefits received for Disability and Sickness Benefits Act, excluding premiums paid by the benefits agency, for first-generation immigrants and their children, accounting for immigration behaviour and number of children, discounted to 2016, based on data from 2016. Source: Our own calculation based on Statistics Netherlands StatLine and Statistics Netherlands microdata.

[293] See, among others: https://www.tweedekamer.nl/kamerstukken/plenaire_verslagen/kamer_in_het_kort/debat-over-uitkeringsfraude-door-poolse, retrieved 10-9-2020 and the House of Representatives (2018). *Misbruik en oneigenlijk gebruik op het gebied van belastingen, sociale zekerheid en subsidies [English: 'Abuse and misuse of taxes, social security and subsidies'].* Letter from the Minister of Social Affairs and Employment. Debates of the House of Representatives, session 2018-2019, 17 050, no. 545.

A number of regions stand out in terms of a high negative contribution to collective disability insurance, or in other words, a very high use of disability benefits. Immigrants from the former Yugoslavia (- €13,000) and the North African region (- €15,000) place a heavy burden on the disability scheme. For immigrants from Morocco, this amount is even higher at - €43,000, but immigrants from Turkey take the cake with - €46,000.

In Figure 8.11, age profiles have been drawn up for people with a Dutch background and a Western, non-Western and Turkish first-generation immigration background. It can be seen that native Dutch people and Western immigrants up to approximately 55 years of age make a positive contribution to the disability funds each year. After that, the reliance on the benefit will on average exceed the contribution to premiums. For non-Western immigrants, the turning point is just above the age of 40. For immigrants from Turkey, on average, from the age of about 33, they make a greater use of disability insurance than they contribute to it in the form of premiums. Around the age of 60, Turkish immigrants on average receive about €7,000. A comparable profile applies to Moroccan first-generation immigrants.

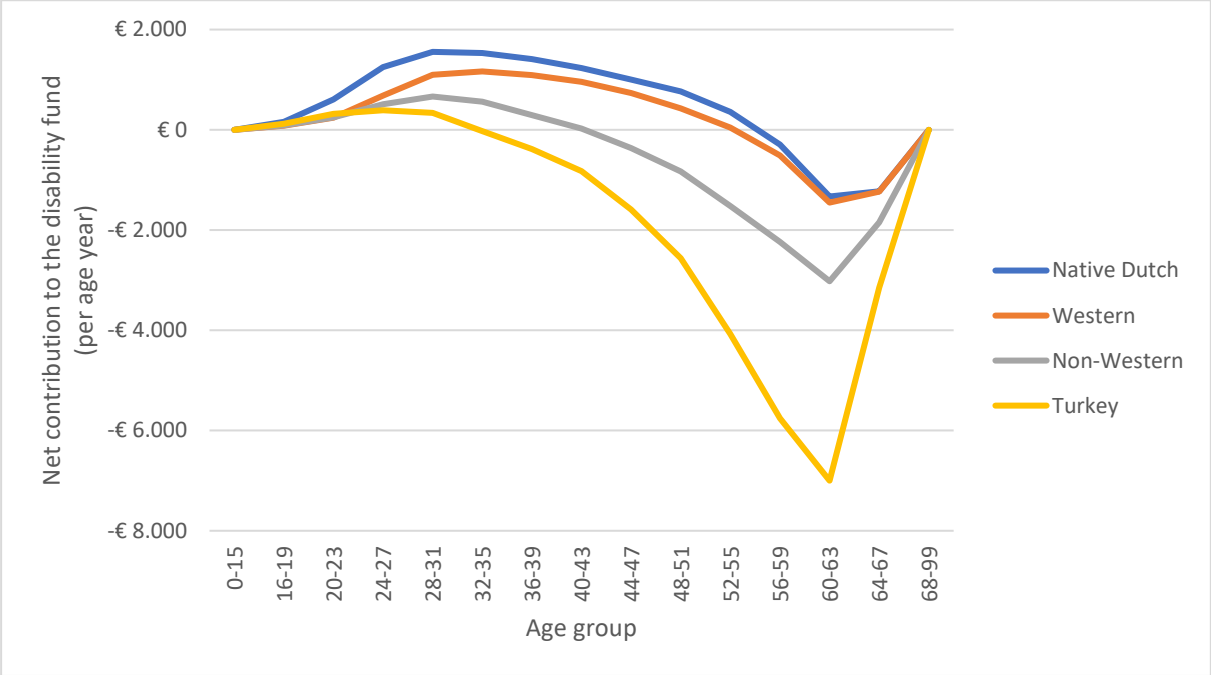


Figure 8.11 Age profile[294] for the balance of disability premiums minus benefits received for the Disability and Sickness Benefits Act, excluding premiums paid by the benefits agency, for native Dutch people and first-generation immigrants from several regions of origin, 2016. Source: Our own calculation based on Statistics Netherlands microdata.

This extraordinarily high consumption of disability benefits by Turkish immigrants is not directly – though possibly indirectly[295] – attributable to the fact that guest workers were massively laid off under

[294] Averages per four-year age group. For the sake of readability, the age groups irrelevant to the disability insurance have been combined up to 0-15 years and 68-99 years.

[295] A direct effect is virtually impossible. It is true that in the 1980s there was a high use of disability benefits among Turks and Moroccans, but those benefit recipients had already reached the state pension age in the reference year of the current study (2016), unless they were younger than 30 at the time. There may be an indirect effect, in the sense that the high use of disability benefits in these population groups has lowered the threshold for opting (rightly or wrongly) for disability benefits, so that later cohorts also used this exit route relatively often.

the Disability Benefits Act (WAO, now called WIA), especially in the 1980s, because even among those in their thirties and forties, the consumption of disability insurance is very high and the reference year for the data shown is 2016. It is worth investigating whether there really is such a big difference in work capacity between the different groups and what diseases, disabilities or other causes have created such a situation. The discovery of large-scale abuse such as in the case of the Polish unemployment benefit fraud (see §8.6) is imminent here. It seems that the Netherlands not only has an accessible, but also an exceptionally abuse-friendly welfare state.

People with an immigration background in Morocco, North Africa, the former Yugoslavia, Surinam, Poland and the Baltic States also have a relatively high dependency on disability benefits, especially among older first-generation immigrants. In general, the use is much lower for the second generation, but the opposite is true for immigrants from the region of Poland and the Baltic States and only the older second generation is overrepresented (see Figure 8.12).

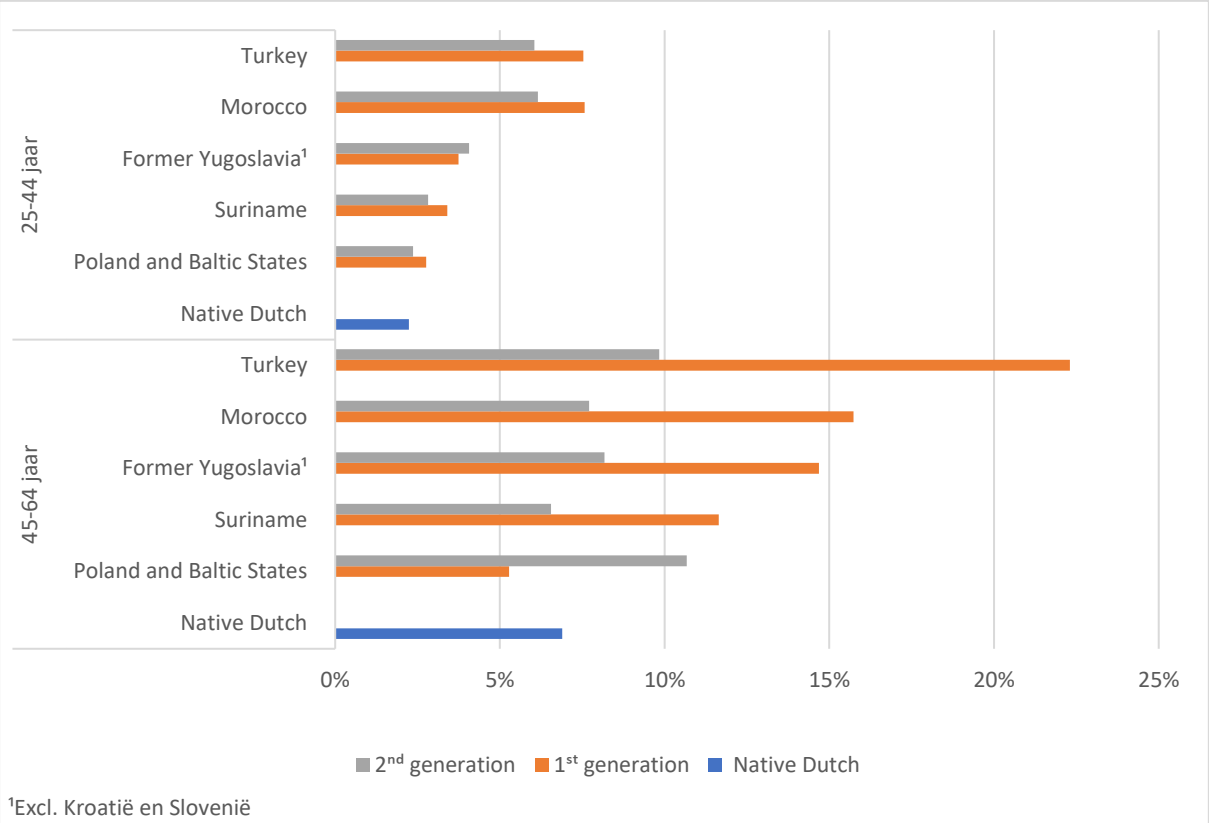


Figure 8.12 Share of recipients of benefits for illness or disability as a percentage of the relevant population group, broken down by immigration background and age. Our own calculation based on Statistics Netherlands microdata.

8.8 Social assistance

The use of social assistance up to the age of 65 is shown in Figure 8.13. The social assistance benefit claimed by the native Dutch reference during his or her life is €7,000. In a limited number of regions – Japan, the Anglo-Saxon countries, Scandinavia, France and Switzerland – the claim on the assistance is at or below the reference value of - €7,000. Most (other) Western countries, Southern Africa and a number of regions in East Asia occupy a middle position. Immigrants from the rest of Africa, the Middle East, Turkey, Morocco, the former Soviet Union, the former Yugoslavia and the Caribbean make a significant claim on assistance, which can amount to €85,000 for both generations combined.

It is striking that regions where many asylum immigrants come from score relatively poorly compared to surrounding regions. Among European immigrants, people from the former Yugoslavia (- €35,000) and the former Soviet Union (- €55,000) apply for social assistance for a relatively large amount. With regard to origin in Asia, this is the case for the region of Afghanistan, Iran, Syria and Iraq (- €120,000), which is an important region of origin for asylum immigrants. The largest amount of social assistance (- €165,000) is claimed by immigrants from the Horn of Africa and Sudan region – also an important area of asylum origin.

The high social assistance dependency of asylum immigrants is no coincidence; asylum immigrants often start their residence as status holder as a social assistance dependent and many remain in that position even after 10 or 15 years of residence. The extent to which asylum immigrants are dependent and often remain so for a long time is shown in Figure 8.14, which shows age profiles for the income from social assistance for native Dutch people and some groups of first-generation immigrants. For native Dutch people, the amount is a maximum of €300 to €400 per person per year. For Western immigrants, it starts low, but steadily climbs to over $1,000 per person per year.

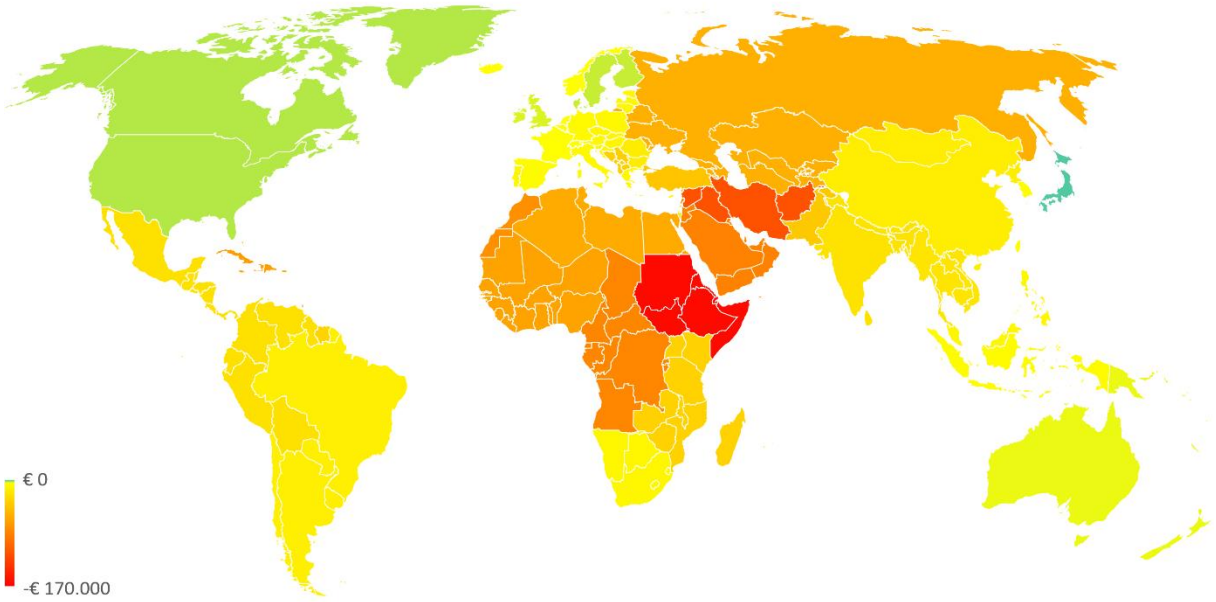


Figure 8.13 Total social assistance receipts for first-generation immigrants and their children, accounting for immigration behaviour and number of children, discounted to 2016, based on data from 2016. Source: Our own calculation based on Statistics Netherlands StatLine and Statistics Netherlands microdata.

For non-Western immigrants it is around €2,500 per person per year. That is relatively high, but the use of social assistance benefits for immigrants from the Horn of Africa and Sudan region is €7,000 to €8,000 per person per year, 20 times more than for native Dutch people. For the Afghanistan, Iran, Syria and Iraq region, the amounts involved are in the range €3,500 to €6,500 per person per year over a large part of their life. That is also relatively high.

Figure 8.14 reveals something else with regard to (asylum) immigrants. A significant number of them have not built up enough state pension rights and remain dependent on social assistance even after the state pension age. This can be seen in the higher consumption of social assistance in the retirement age. This must be taken into account when determining the use of the state pension scheme.

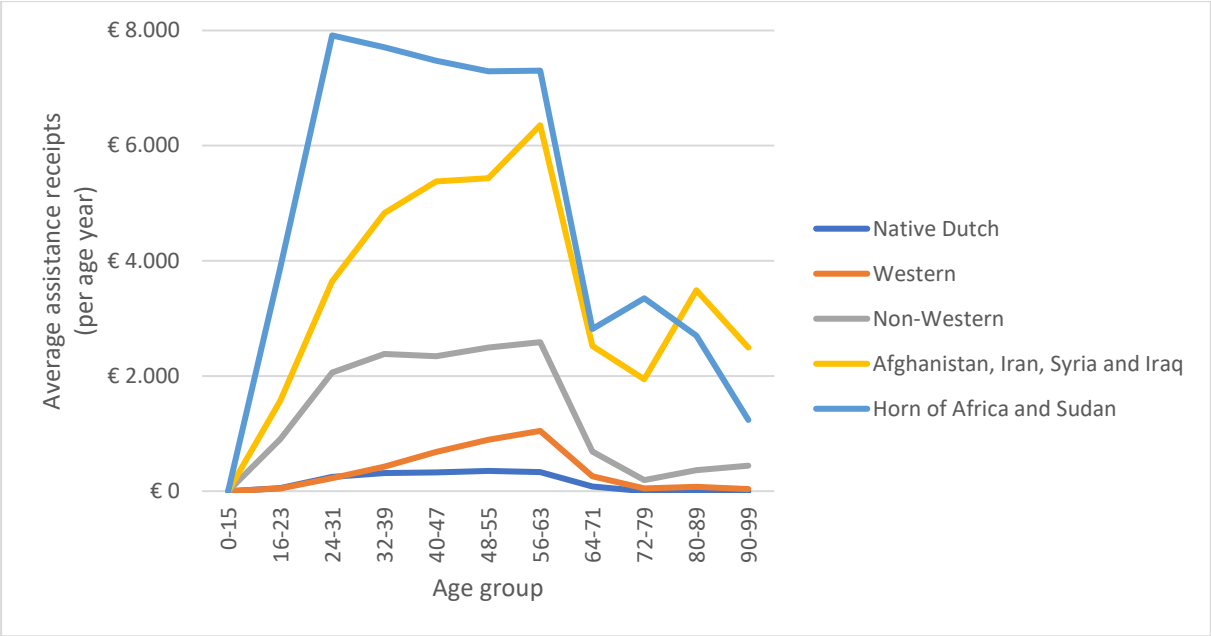


Figure 8.14 Age profile[296] for social assistance, excluding premiums paid by the benefits agency, for some regions of origin, 2016. Source: Our own calculation based on Statistics Netherlands StatLine and Statistics Netherlands microdata.

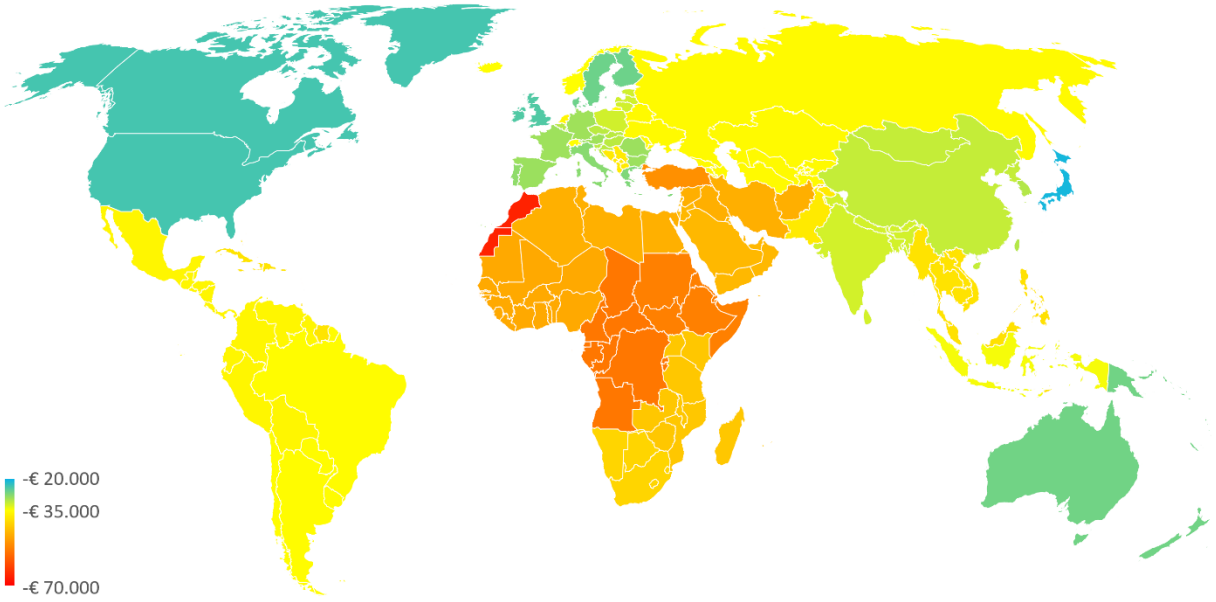


Figure 8.15 Total receipts from other benefits and social provisions, including the Income Provision for Older and Partly Disabled Unemployed Employees (IOAW), the Income Provision for Older and Partly Disabled Formerly Self-Employed Persons (IOAZ), the Assistance for the Self-Employed (BBZ), the Invalidity Benefit Scheme for Young Disabled Persons Act (Wajong), the Surviving Dependants Benefit (ANW), the redundancy pay scheme (wachtgeldregeling) and the war and resistance pension, for first-generation immigrants and their children, accounting for immigration behaviour and number of children, discounted to 2016, based on data from 2016. Source: Our own calculation based on Statistics Netherlands StatLine and Statistics Netherlands microdata.

[296] Averages per eight-year age group (up to 80 years) and for the age groups 80-89 and 90-99. For the sake of readability, the youngest age group irrelevant for social security has been combined up to 0-15 years.

8.9 Other social security arrangements

In this section the total burden on a number of social security arrangements is given, each of which is often somewhat smaller in terms of costs and partly also less known to the general public. This includes a number of schemes for older employees and the self-employed, namely the Income Provision for Older and Partly Disabled Unemployed Employees (IOAW), the Income Provision for Older and Partly Disabled Formerly Self-Employed Persons (IOAZ) and the Assistance for the Self-Employed (BBZ). The war and resistance pension also falls into this category. Finally, the Invalidity Benefit Scheme for Young Disabled Persons Act (Wajong), the Surviving Dependants Benefit (ANW) and the redundancy pay scheme (*wachtgeldregeling*) are also included in this category.

At approximately €35,000, the claim on this collection of benefits or social provisions by immigrants with the characteristics of the average native Dutch person is slightly below the middle of the range that lies between - €70,000 and - €20,000. A number of regions of origin show a claim on these benefits exceeding this €35,000, especially in Africa, the Middle East and Indochina. The claim on these resources is actually low for most Western countries of origin and for East and South Asia.

8.10 State pension

Just like unemployment and the disability schemes, the state pension is a benefit to which a premium can be linked directly. That is why a profile for the net contribution can be determined specifically for the state pension. With regard to the state pension, many immigrants have not built up full coverage. For complete coverage, 50 years of residence from the age of 15 are required. That is why for many older immigrants the pension is supplemented from social assistance: the supplementary income provision for the elderly (AIO). For that reason, social assistance has also been included for ages over 65.

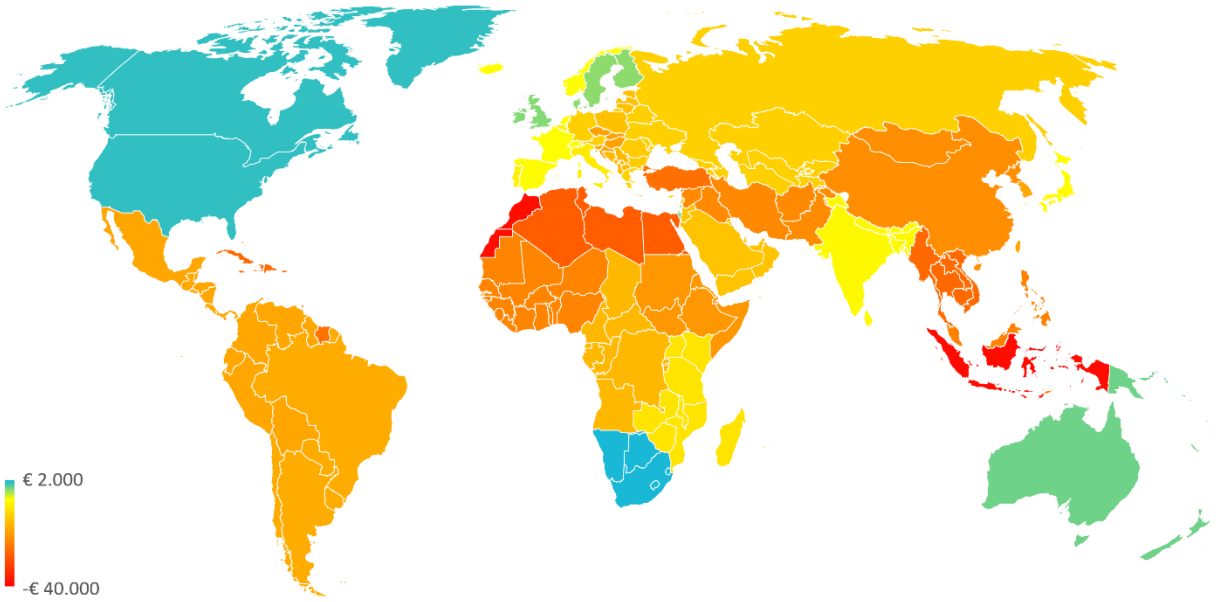


Figure 8.16 Balance of state pension contributions minus pension benefits received and social assistance benefits received from the age of 65 for first-generation immigrants and their children, accounting for immigration behaviour and number of children, discounted to 2016, based on data from 2016. Source: Our own calculation based on Statistics Netherlands StatLine and Statistics Netherlands microdata.

The results are shown in Figure 8.16. The value for the Netherlands (yellow) is filled in with the value for the native Dutch reference – the hypothetical immigrant with the characteristics of the average native Dutch person. It can be seen that for none of the origin groups the state pension premium payments cover the reliance on the state pension and supplementary social assistance. Apart from immigration, this is not so surprising because in the reference year 2016 the macro amount for the state pension benefit amounted to 36 billion euros[297], thus far exceeding the macro amount[298] for the state pension premiums of 22 billion euros. There are, however, clear differences by region of origin, with lower amounts for, among others, North America, Oceania, Israel, South Africa, Japan and some European countries.

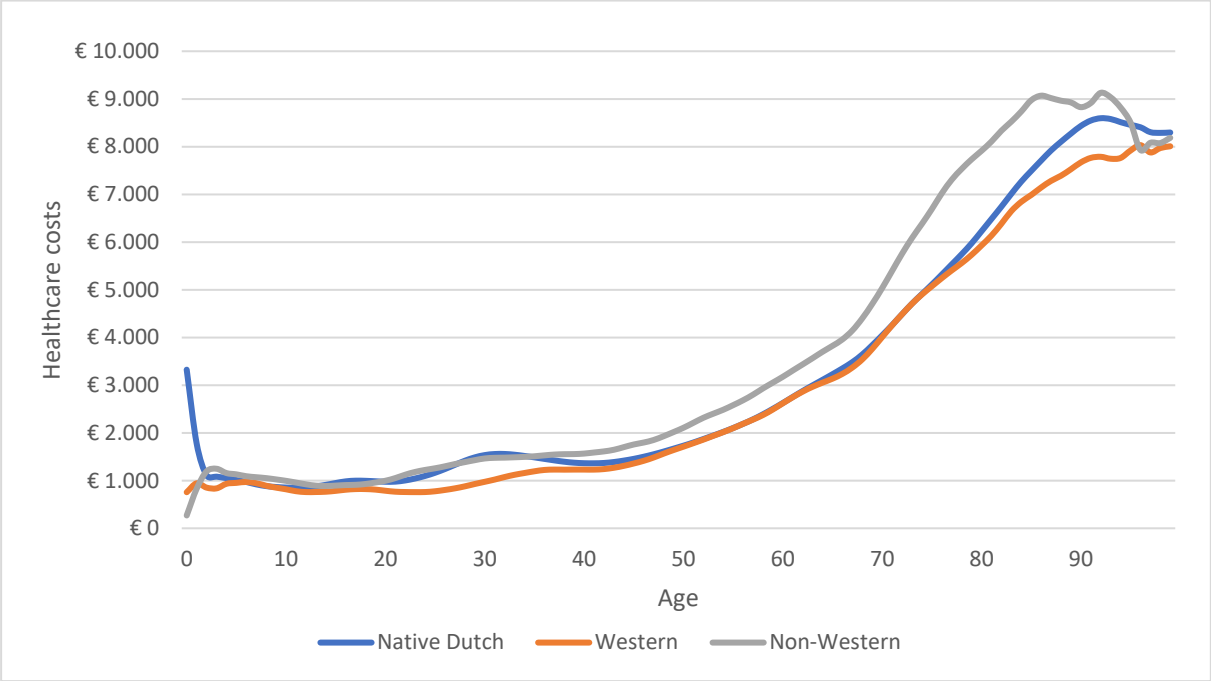


Figure 8.17 Healthcare costs in the context of compulsory insurance under the Health Insurance Act (ZFW) for first-generation immigrants by origin and age. Source: Our own calculation based on Statistics Netherlands Stat-Line and Statistics Netherlands microdata.

8.11 Healthcare

This section discusses the costs and benefits of healthcare. Schematically presented, Dutch healthcare consists of two main parts, one aimed at *cure* (medical treatment) and one aimed at *care*. The *cure* part is regulated in the Health Insurance Act (Zvw), which obliges every resident to take out (basic) health insurance. About half (21 billion euros) of healthcare expenses covered by the Zvw (41 billion euros[299]) are covered by income-dependant Zvw contributions from the self-employed, employees (deducted from wages), employers and benefit agencies. Roughly the other half is financed from the premiums that citizens themselves have to pay to the health insurer (19 billion euros) and the deducted personal contributions due to the deductible (3 billion euros). Because of the healthcare allowance (4 billion euros), payments to the health insurer are also de facto income-dependent. The *care* part includes the Youth Act (*Jeugdwet*), the Long-term Care Act (Wlz) and the Social Support Act

[297] The costs of assistance for persons with an immigration background of 65 years or older are added to this.
[298] Based on Statistics Netherlands microdata.
[299] All amounts mentioned in this paragraph relate to 2016.

(Wmo), which have jointly replaced the Exceptional Medical Expenses Act (AWBZ). Here, citizens' – also income-dependant – AWBZ premiums[300] form an important source of financing (14 billion euros).

In the rest of this section, we first discuss the costs for the *care* part of healthcare: the compulsory health insurance under the Health Insurance Act (Zvw). Figure 8.17 shows the healthcare costs for native Dutch people and first-generation immigrants, broken down by origin and age. This only concerns the costs under the compulsory health insurance under the Zvw, after deduction of the personal contributions due to the deductible.

First of all, it is noticeable that the costs increase sharply with age. It is also striking that the costs for 0-year-olds are much higher for the native Dutch people: first-generation immigrants are by definition born abroad, so that there are no costs for birth care. In addition, there are considerable differences between the origin groups. Western immigrants have the lowest costs for most ages. Non-Western immigrants, on the other hand, have the highest costs for most ages. Native Dutch people are in between. For people in their eighties, the difference between the groups even amounts to approximately €2,000 per year.

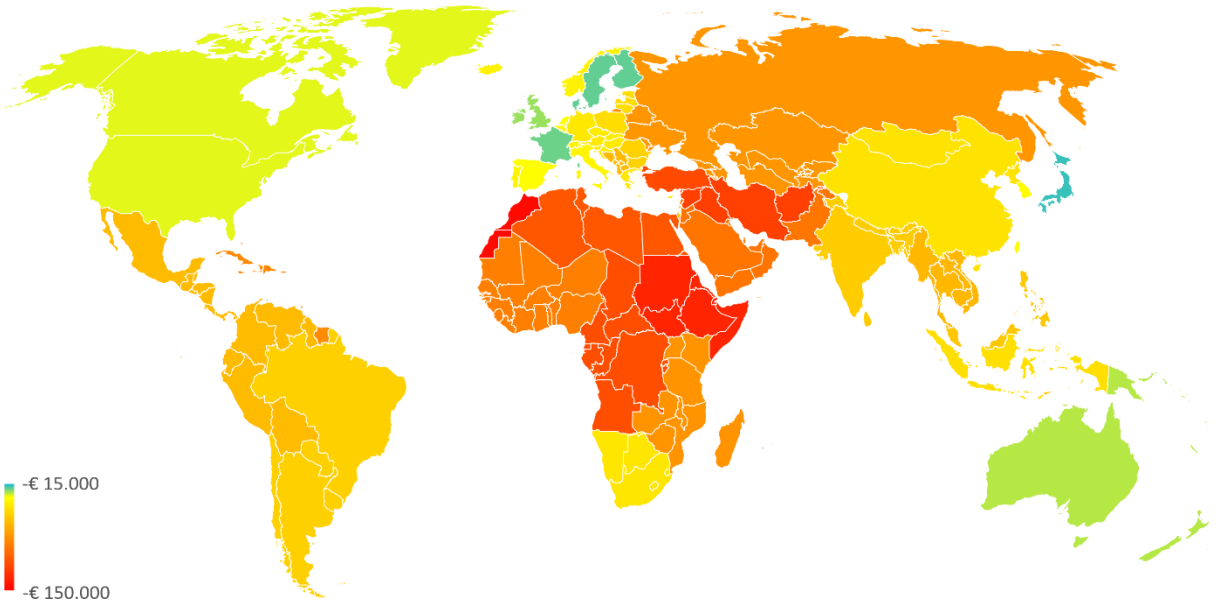


Figure 8.18 Balance of the premiums under the Long-term Care Act (AWBZ/Wlz) and the premiums and deductible contributions under the compulsory basic insurance under the Health Insurance Act (Zvw) minus the total healthcare costs, for first-generation immigrants and their children, accounting for immigration behaviour and number of children, discounted to 2016, based on data from 2016. Source: Our own calculation based on Statistics Netherlands StatLine and Statistics Netherlands microdata.

Finally, we discuss the total net contribution of residents to healthcare costs. Figure 8.18 shows the balance of all healthcare costs, i.e., the costs covered by the compulsory basic insurance minus Zvw premiums and deductible contributions (the *cure* part) and the costs for long-term care[301] minus the AWBZ premiums (the *care* part).

[300] Statistics Netherlands still uses the term AWBZ premiums in its internal documentation and that term has been used in the current report.
[301] The age profile for the healthcare costs for the *care* part is derived from the CPB, see the Technical Appendix.

The benchmark value (the shades of yellow) is again taken as the amount for the native Dutch reference (approximately - €33,000). Because the sum of healthcare costs allocated to individuals and healthcare benefits received by individuals (65 + 4 = 69 billion euros[302]) is smaller than the sum of all premiums and personal contributions (19 + 21 + 3 + 14 = 57 billion euros), there are no groups that contribute more for healthcare than they receive.

Healthcare costs are relatively low for the Anglo-Saxon countries, Japan, France, Sweden, Denmark and Finland. For many other European countries, but also for example for Southern Africa and the Asian tigers South Korea, Taiwan, Hong Kong and Singapore, the healthcare costs are around the benchmark value of - €33,000. In absolute terms, healthcare costs are highest for immigrants from the Middle East and large parts of Africa, especially Morocco, Turkey and the asylum-origin regions of Afghanistan, Iran, Iraq and Syria and Sudan and the Horn of Africa. Because both healthcare premiums and healthcare allowance are income-dependant, the large differences in income by immigration background (§8.13) are reflected in the net contributions to healthcare.

8.12 Security

With regard to security – which relates, among other things, to the prevention, detection and punishment of crime – there are clear differences according to immigration background. The starting point for the calculation is Statistics Netherlands StatLine data[303] for the number of crime suspects by immigration background, whether or not in combination with education level[304]. In addition, based on Statistics Netherlands customized tables[305], the extent to which groups differ when it comes to the various phases in the criminal justice chain, such as actual prosecution, conviction and enforcement of sentences, in particular the imposition of (expensive) prison sentences[306], was also taken into account. This reinforces the already significant differences in the number of suspects. As with the other items, the costs for the first and second generation are aggregated. For most cost items, the costs are not too bad for one of the two generations for various reasons.[307] Because relatively young people in particular[308] exhibit delinquent behaviour, the security costs, by contrast, are significant for both the predominantly young first[309] and second[310] generations.

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[302] All amounts mentioned in this paragraph relate to 2016.

[303] Statistics Netherlands StatLine, *Verdachten; geslacht, leeftijd, migratieachtergrond en generatie*, retrieved 15-12-2020 from: https://opendata.cbs.nl/statline/#/CBS/nl/dataset/81959NED/table?dl=3CFB2

[304] Statistics Netherlands StatLine, *Verdachte jongeren; geslacht, herkomst, opleiding en recidive, 2006-2014*, retrieved 15-12-2020 from: https://opendata.cbs.nl/statline/#/CBS/nl/dataset/81978NED/table?dl=3C860

[305] Statistics Netherlands customized table, *Migratieachtergrond personen in de strafrechtketen,* retrieved 15-12-2020 from:
https://www.cbs.nl/-/media/_excel/2019/10/migratieachtergrond-personen-in-de-strafrechtketen.xlsx

[306] For more explanation see the Technical Appendix and further the Statistics Netherlands article (2019), *Migratieachtergrond van personen in de strafrechtketen,* retrieved 15-12-2020 from:
https://www.cbs.nl/nl-nl/maatwerk/2019/10/migratieachtergrond-van-personen-in-de-strafrechtketen

[307] For example: education does hardly apply to the first generation, and state pension is not of great importance to the second generation, due to the discounting, because it is far in the future.

[308] Statistics Netherlands StatLine, *Verdachten; geslacht, leeftijd, migratieachtergrond en generatie*, retrieved 15-12-2020 from: https://opendata.cbs.nl/statline/#/CBS/nl/dataset/81959NED/table?dl=4BD8C

[309] The costs of crime are particularly high for the age groups 18 to 25 years, 12 to 18 years and 25 to 45 years and the entry age (age at the time of immigration) of more than a quarter of the first generation falls into the category aged 18 to 25 and nearly half of immigrants are aged 25 to 45.

[310] For the second generation, the diminishing effect of discounting due to the relatively low ages is much smaller than, for example, is the case with healthcare or pension costs.

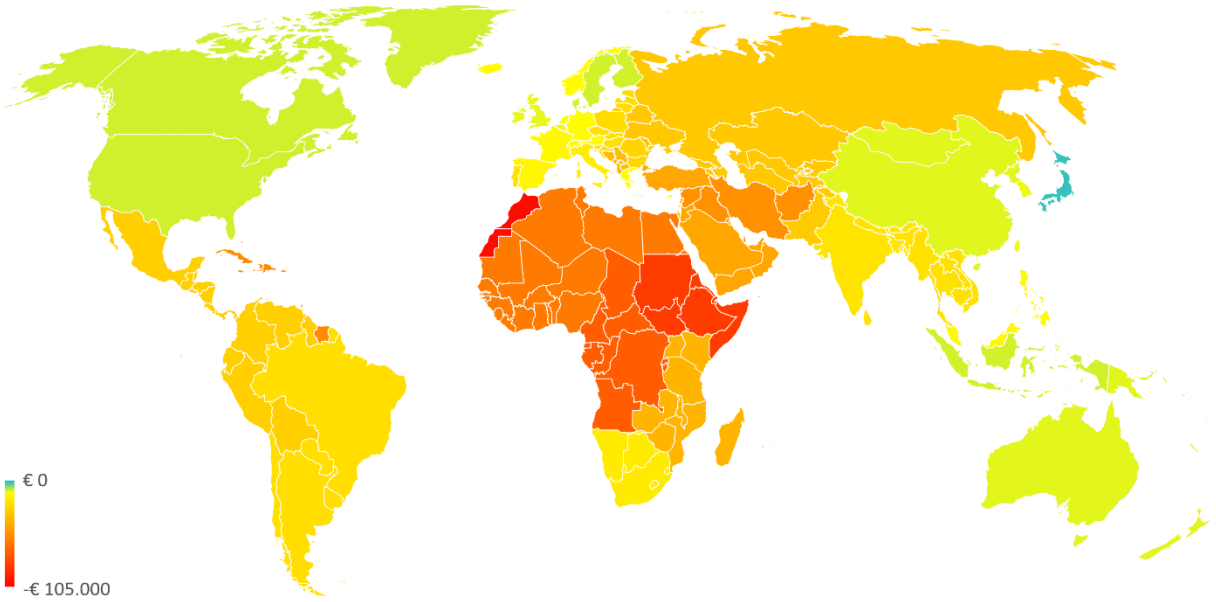


Figure 8.19 Security costs, in particular for crime, based on the number of suspects per 10,000 inhabitants, weighted costs differ between the phases in the criminal justice chain (detection, prosecution, trial, enforcement with or without imprisonment) and including the costs of supporting victims, suspects and perpetrators, for first-generation immigrants and their children, accounting for immigration behaviour and number of children, discounted to 2016, based on data from 2016. Source: Our own calculation based on Statistics Netherlands StatLine and Statistics Netherlands microdata.

A total of 10 billion euros has been allocated to security for all residents of the Netherlands. However, that money is very unevenly distributed across the different immigration backgrounds. In 2016, about half of the macro amount went to native Dutch people and the other half to first and second-generation immigrants.[311] Figure 8.19 shows that there are major differences between regions of origin. For immigrants from, for example, Scandinavia, the Anglo-Saxon countries, Indonesia and East Asia, crime and the associated costs are low. On the other hand, the costs are highest for Morocco and Aruba and the (former) Antilles, at about €100,000 per person. High costs of €40,000 to €80,000 also apply to the Caribbean, Suriname, Turkey, the Middle East and large parts of Africa. Due to the large group differences, security – just like social assistance, for example – is an item that appears fairly modest in the national budget, but which can nevertheless involve large sums over the life course.

8.13 Public goods, taxes and income

This section discusses the last cost item that has not yet been discussed, namely public goods. Furthermore, government revenues from taxes and non-tax resources are discussed.

Public goods are the largest item in Figure 8.1 with 94 billion euros. This includes public administration, dike monitoring and defence. Development aid and government investments in buildings and infrastructure are also included in this item. In addition, a few remaining items, such as the costs for fundamental research, have been grouped under this heading.

In the present study, it is assumed that all citizens benefit equally from government expenditure on public goods and that the costs are equally attributable to all citizens. No distinction is therefore made

[311] The relatively young population structure for immigrants does play a role here, however, this is largely corrected by the generational accounting method used.

according to immigration background when it comes to the aforementioned sub-items. For the most part, these are items that are very difficult to attribute to individuals or groups in an objective manner.

For a relatively small part of the item public goods, a distinction is made between groups. In the first place, of course, security (see §8.12) which includes the police and the judiciary. In addition, there are 'start-up costs': costs for the issuance of residence permits by the Immigration and Naturalisation Service (IND), costs for the reception of asylum seekers (for the most part the Central Agency for the Reception of Asylum Seekers, COA) and costs related to donations and non-recoverable loans for the integration process allocated pro rata to first-generation immigrants.

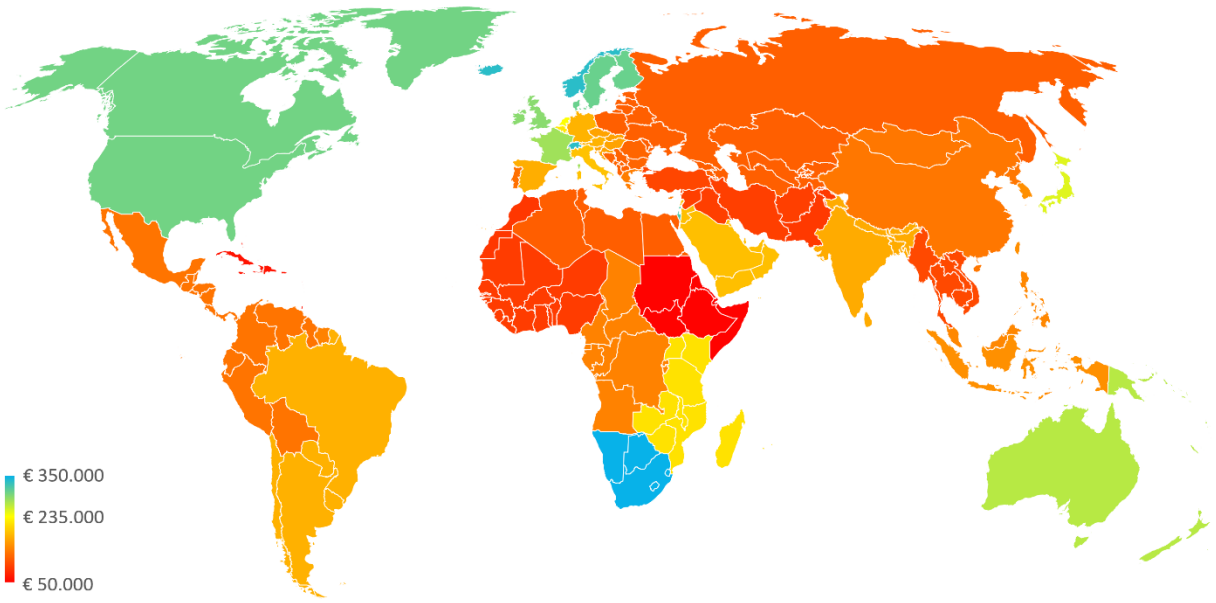


Figure 8.20 Total of taxes on income and wealth, indirect taxes on persons and non-tax resources of the central government, less the costs of public goods, for first-generation immigrants and their children, accounting for immigration behaviour and number of children, discounted to 2016, based on data from 2016. Source: Our own calculation based on Statistics Netherlands StatLine and Statistics Netherlands microdata.

Apart from security and the aforementioned 'start-up costs', no distinction is therefore made between groups in the allocation of the remaining costs for public goods. That is not to say that there are no group differences. Groups differ in terms of probability of remigration and average length of stay. Items that vary little or not at all between groups are mainly related to the length of stay. For example, the longer an immigrant stays in the Netherlands, the more income from VAT and more costs for dike monitoring are attributed to him or her. There are large differences in length of stay and net contribution between, for example, asylum immigrants (who often stay long term and often have large negative net contributions) and labour immigrants (who often stay short term and often have large positive net contributions). This makes it difficult to interpret data on net use of public goods and total taxes paid in isolation. That is why these items have been summed up to one residual item, which strongly reduces the effect of length of stay.

This section further discusses government revenues. The premiums for state pensions, unemployment, healthcare and disability/sickness benefits are not taken into account in this section because they have already been discussed under the relevant expenditure items (see §0, §8.7, §8.10 and §8.11).

As far as government revenue from taxes and other sources is concerned, this mainly consists of four major items, which are discussed one by one below (see Figure 8.1).

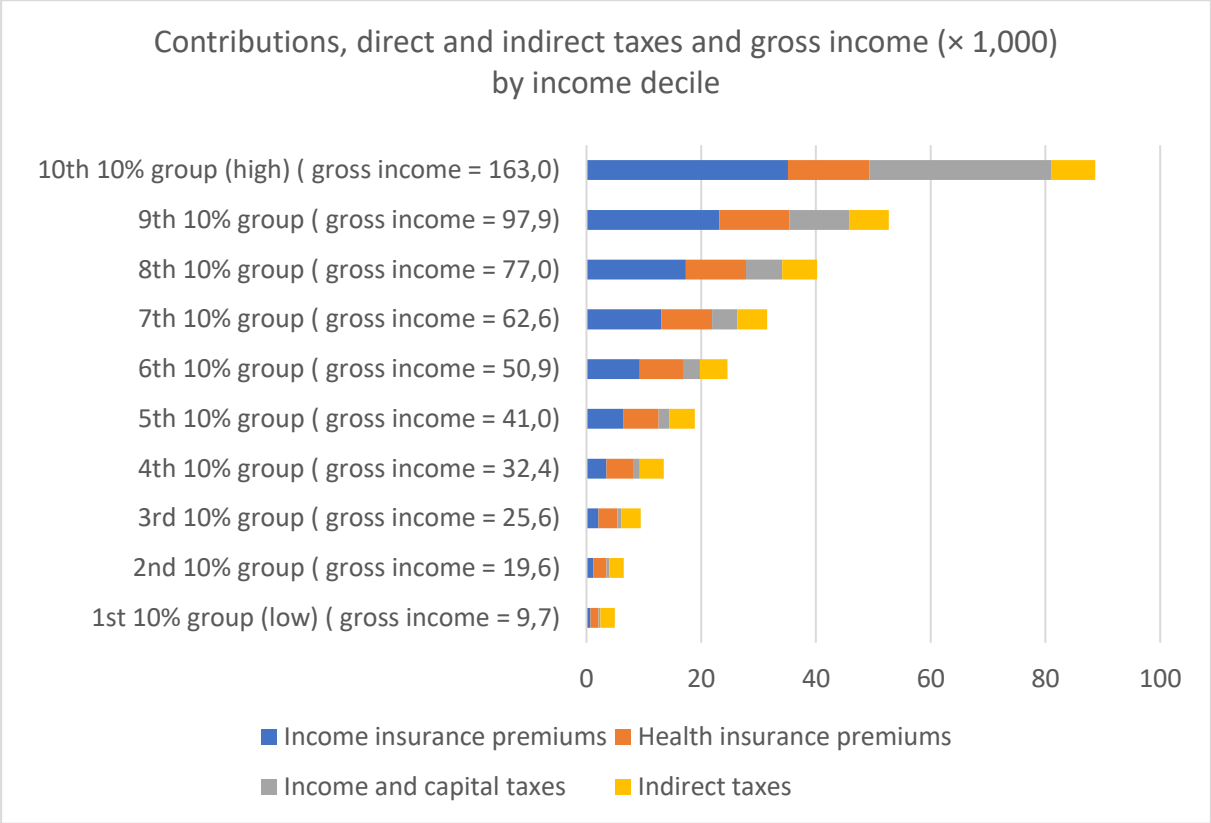


Figure 8.21 Taxes and premiums paid by income decile for the entire population, amounts in euros. Source: Our own calculation based on Statistics Netherlands StatLine.[312] [313]

An important source of revenue for the government is the tax on income, amounting to 57 billion euros in 2016. In the current study, this amount has been calculated per group on the basis of Statistics Netherlands microdata. Indirect taxes on individuals – which include VAT, for example – are the largest source of income with 68 billion euros. The calculation of indirect taxes in the current report is based on estimates made by Statistics Netherlands of the amounts paid per household and allocated to individuals on the basis of microdata. In addition, there are wealth-related taxes, which include dividend and corporation tax. These taxes are largely related to (pension) assets in the form of shares and the like and to a lesser extent to direct shareholding in companies and amount to 38 billion euros. Finally, in Figure 8.1, there is a residual item Other government revenue of 45 billion euros. This residual item contains the other tax resources and other government revenue, such as, for example, the proceeds from land sales. Following the CPB, in the current study the same amounts are used for all persons, regardless of immigration background, generation, immigration motive and the like.[314]

[312] Statistics Netherlands StatLine, *Indirecte belastingen en bestedingen; kenmerken part huishoudens, 2006-2013*, retrieved 15-12-2020 from: https://opendata.cbs.nl/statline/#/CBS/nl/dataset/81290ned/table?dl=4BDBE

[313] Statistics Netherlands StatLine, *Samenstelling inkomen; particuliere huishoudens, kenmerken, 2001-2014*, retrieved 15-12-2020 from: https://opendata.cbs.nl/statline/#/CBS/nl/dataset/70991ned/table?dl=4BDC8

[314] See further the Technical Appendix.

The total of all listed taxes, less the costs for public goods, is shown in Figure 8.20 for the 42 origin groups. The benchmark value (the shades of yellow) is again the amount for the native Dutch reference, the hypothetical immigrant with the characteristics of a native Dutch person, i.e., a positive amount of €235,000 over the life course. This amount must therefore cover the total net costs of all cost items discussed above. It can be seen that only in a dozen countries and regions do immigrants perform better than the reference native: Scandinavia, France and Switzerland, the Anglo-Saxon countries, Southern Africa, Israel and Japan.

The costs for public goods offer little in way of an explanation for the differences, as stated above, because they are largely assumed to be the same for everyone. The most important effect (besides the aforementioned length of stay) is the attribution to beneficiaries of the substantial costs for the reception and integration of asylum seekers. This mainly concerns regions where a relatively large number of asylum immigrants come from, such as the Horn of Africa and parts of the Middle East.

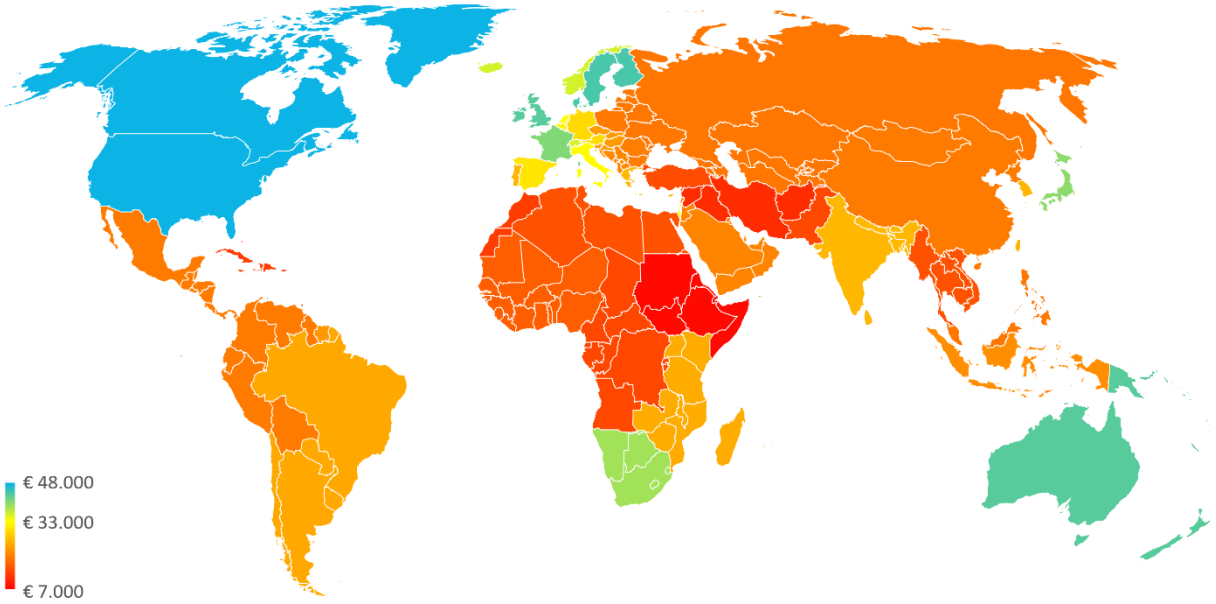


Figure 8.22 Average personal primary income of first-generation immigrants, aged 16 to 68, adjusted for age structure, by region of origin, 2016. Source: Our own calculation based on Statistics Netherlands microdata.

The major differences are mainly on the income side. With regard to taxes and premiums, it should first be noted that these are highly income-dependent; the more one earns, the more one pays. Figure 8.21 shows this relationship between income (per decile, or 10% income group) and payments of taxes and premiums for the entire Dutch population. The 10% of households that earn the least (the first income decile) pay approximately €5,000 in taxes and premiums on an annual basis. The 10% who earn the most (the tenth income decile) pay almost €90,000 in taxes and premiums on an annual basis.

Income is therefore very decisive for the payments of taxes and premiums. Due to the importance of income, Figure 8.22 shows personal[315] primary income[316] (PPI).[317] The PPI is the income that a person

[315] Statistics Netherlands, *Begrippen*, retrieved 30-12-2020 from: https://www.cbs.nl/nl-nl/onze-diensten/methoden/begrippen?tab=p#id=persoonlijk-inkomen

[316] Statistics Netherlands, *Begrippen*, retrieved 30-12-2020 from: https://www.cbs.nl/nl-nl/onze-diensten/methoden/begrippen?tab=p#id=primair-inkomen

[317] The unweighted average of the PPI for the working ages, 16 to 68 years, was used.

acquires from his own work, business or capital. The average PPI of the native Dutch population is given as a reference value (yellow shades) (approximately €33,000).

For a limited number of regions of origin – the Anglo-Saxon and Scandinavian countries, France, Switzerland, Southern Africa, Japan and Israel – first-generation immigrants from those regions have on average a higher income than native Dutch people. In all other regions, the average personal primary income is lower than that of the native Dutch population. Immigrants from asylum areas in Asia (Afghanistan, Iran, Syria and Iraq) and the Horn of Africa and Sudan have the lowest incomes. The PPI of first-generation immigrants from Pakistan, Turkey, Morocco, Central Africa and the Caribbean is also low (on average less than €15,000).

Differences in income have a significant effect on the net contribution. For the 42-part division of regions of origin (minus the Netherlands), a €1,000 higher average personal primary annual income for the first generation is associated with an approximately €14,000 higher net contribution.[318]

The fact that income is so decisive for the net contribution is an important observation that is relevant to policy. This means that migration of unskilled and low-skilled workers usually entails high net costs for the treasury. When labour migration is accompanied by family migration, this further increases these costs. The notion 'it will be fine as long as the immigrant works' does not hold true from a purely net contribution perspective. The immigration of guest workers and more recently the labour immigration of low-skilled immigrants from Central and Eastern Europe shows that labour participation – however useful for integration and the like – does not automatically mean that there will be a positive net contribution.

Finally, Table 8.4 shows (in that order) the total net contribution and its breakdown into the items Education, Youth, Housing benefit, Unemployment, Disability, Social assistance, Other social security, State pension, Healthcare, Security and the residual item consisting of Taxes minus Public goods for 1st and 2nd generation immigrants, as well as the Personal Primary Income (PPI) for the 1st generation. This is the underlying data for the world maps shown in this chapter.

[318] Average personal primary income, for the ages 16 to 68, adjusted for age structure.

Table 8.4 Net contribution, total and broken down into sub-items, 1st and 2nd generation together (× €1,000). Personal Primary Income (PPI), 1st generation, 16 to 68 years, adjusted for age structure (× €1,000).

Region	Net contribution	Education	Youth	Housing Benefit	Unemployment	Disability	Social assistance	Rest social security	State pension	Health-care	Crime, security	Taxes minus publ. goods	PPI
Native Dutch reference	94,9	-58,3	-13,6	-4,8	13,3	17,9	-7,1	-36,1	-6,1	-33,5	-12,6	235,8	32,8
Afghanistan, Iran, Syria and Iraq	-418,2	-110,2	-21,7	-28,9	6,6	-0,2	-117,7	-46,0	-21,8	-120,7	-53,2	95,8	11,5
Arabian Peninsula, Jordan and Lebanon	-224,2	-92,8	-21,0	-20,3	8,4	-0,4	-86,2	-44,7	-14,0	-96,3	-45,3	188,4	20,6
Aruba and (former) Netherlands Antilles	-254,3	-79,3	-21,1	-16,8	3,9	3,8	-49,0	-38,2	-11,9	-74,9	-97,5	126,7	19,4
Belgium and Luxemburg	63,4	-54,2	-11,7	-4,5	8,7	7,7	-8,0	-30,7	-7,8	-36,2	-17,9	218,1	31,9
Brazil, Argentina, Paraguay, Uruguay, Chile, Fr. Guiana	-33,8	-60,9	-13,8	-9,2	7,6	13,2	-17,2	-35,4	-17,0	-54,7	-24,8	178,5	24,3
Bulgaria and Romania	-69,9	-46,0	-10,2	-8,6	6,4	7,9	-18,5	-29,1	-13,0	-53,4	-28,6	123,2	19,8
Caribbean	-321,2	-66,7	-21,6	-22,4	2,7	0,6	-69,6	-38,7	-26,0	-87,9	-54,7	63,2	13,0
Central Africa	-382,3	-145,5	-34,0	-24,1	6,9	9,1	-84,0	-53,7	-15,4	-114,4	-71,6	144,4	14,2
Central America and South America Other	-117,8	-67,3	-15,1	-11,9	6,9	9,9	-25,9	-36,2	-17,8	-64,1	-30,5	134,2	19,5
China, Mongolia and North Korea	-47,1	-60,9	-11,8	-9,5	9,2	16,9	-17,6	-31,5	-20,9	-45,8	-11,5	136,3	19,6
Denmark, Sweden and Finland	207,8	-43,9	-10,1	-2,8	9,8	19,0	-5,5	-26,4	-2,4	-21,9	-10,7	302,6	43,7
East Africa	-98,0	-88,2	-20,5	-12,0	7,8	11,1	-36,1	-42,7	-9,7	-82,0	-39,9	214,1	24,5
EFTA, dwarf states and crown dependencies	181,8	-65,1	-13,5	-3,7	12,6	22,2	-7,3	-35,2	-6,1	-38,8	-14,1	330,9	35,6
Former Soviet Union (excl. Baltic states)	-177,1	-64,4	-13,9	-16,4	6,9	11,9	-57,7	-35,7	-12,3	-81,2	-32,9	118,6	19,1
Former Yugoslavia (excl. Slovenia, Croatia), Albania	-161,5	-59,1	-13,2	-13,5	7,8	-12,7	-37,5	-37,8	-15,4	-65,3	-37,1	122,2	20,8
France	164,7	-48,3	-12,4	-4,2	11,4	20,4	-7,0	-29,3	-6,1	-22,7	-15,0	278,0	40,5
Germany and Austria	22,5	-47,6	-10,2	-5,5	7,6	7,9	-10,1	-29,4	-12,4	-43,5	-14,4	180,1	29,2
Greece and Cyprus	-12,8	-44,9	-8,3	-6,7	6,5	6,9	-10,7	-27,5	-11,8	-44,1	-13,4	141,1	25,9
Horn of Africa and Sudan	-606,1	-136,5	-30,8	-35,5	4,1	-7,1	-163,4	-52,4	-19,9	-133,0	-83,2	51,8	8,0
Hungary, Czech Rep., Slovakia, Slovakia, Croatia	-6,1	-46,9	-10,8	-6,3	5,7	12,5	-12,9	-30,9	-18,5	-42,3	-24,2	168,5	22,8
Indian subcontinent excl. Pakistan	-26,9	-59,8	-11,9	-9,0	10,1	12,9	-25,2	-32,4	-6,9	-56,2	-22,7	174,3	25,6
Indonesia	-23,8	-40,2	-9,0	-5,2	4,7	11,2	-8,6	-34,4	-38,5	-47,8	-10,7	154,7	21,5
Israel	57,8	-93,7	-21,1	-9,5	11,8	15,3	-24,5	-44,3	-1,6	-60,1	-29,8	315,5	32,9
Italy and Malta	50,2	-40,3	-9,9	-6,3	7,7	12,9	-10,7	-28,0	-8,8	-37,6	-19,7	191,0	32,7
Japan	193,6	-28,4	-5,0	-1,4	9,8	20,9	-2,2	-21,3	-6,5	-19,0	-2,8	249,4	39,7
Morocco	-542,5	-114,6	-26,2	-28,7	7,7	-42,8	-78,1	-65,4	-38,1	-145,4	-100,6	89,8	13,2
North Africa (excl. Morocco)	-318,9	-83,8	-19,8	-19,4	6,3	-15,0	-60,4	-45,8	-27,6	-110,4	-60,8	118,1	15,4
North America	202,8	-38,2	-8,1	-2,8	8,8	14,9	-4,9	-24,1	0,5	-31,1	-10,5	298,4	47,3
Oceania	166,5	-40,0	-9,2	-3,5	9,9	15,8	-6,5	-26,7	-1,5	-27,8	-11,5	267,5	42,8
Pakistan	-237,6	-73,9	-14,6	-13,5	5,3	-3,7	-41,5	-37,9	-21,5	-95,7	-31,8	91,2	14,4
Philippines, Malaysia, Brunei and East Timor	-66,3	-72,1	-14,3	-7,7	8,7	18,7	-12,1	-39,1	-22,8	-58,8	-15,0	148,2	19,0
Poland and the Baltic states	-70,6	-47,8	-12,7	-8,6	1,4	10,4	-11,4	-32,2	-14,3	-48,7	-25,5	119,0	19,3
Portugal	-26,7	-43,8	-12,3	-6,1	6,9	7,1	-12,1	-28,4	-7,8	-38,1	-23,2	131,1	25,6
South Korea, Taiwan, Hong Kong, Singapore	14,0	-48,4	-9,4	-7,8	9,5	19,2	-7,8	-30,5	-17,7	-34,6	-12,1	153,6	25,5
Southern Africa	157,8	-86,1	-17,7	-6,4	15,3	22,7	-12,2	-40,8	1,2	-44,4	-20,4	346,7	38,5
Spain	39,3	-47,6	-10,8	-5,9	9,5	13,0	-9,5	-29,1	-6,5	-33,6	-16,2	176,0	30,4
Suriname	-184,9	-56,7	-17,7	-15,2	4,5	-4,9	-34,3	-38,7	-24,7	-85,9	-55,2	144,0	22,5
Thailand, Indochina and Myanmar	-158,8	-72,3	-14,1	-11,9	6,6	8,6	-23,8	-38,9	-26,0	-66,1	-24,0	103,0	15,4
Turkey	-340,1	-87,1	-17,7	-17,6	7,0	-46,1	-43,2	-50,2	-25,1	-115,9	-44,6	100,5	14,8
UK and Ireland	191,0	-37,2	-8,8	-3,5	8,5	14,6	-6,0	-24,8	-2,1	-25,9	-11,8	288,0	42,8
West Africa	-348,5	-104,3	-31,4	-22,2	3,8	-0,9	-65,6	-46,8	-22,2	-91,4	-61,1	93,5	16,6

9 Education and Cito as explanation for group differences in net contribution

By Jan van de Beek, §9.14 by Jan van de Beek, Gerrit Kreffer and Joop Hartog

9.1 Introduction

The analysis of the net contribution of people by region of origin and immigration motive given in Chapters 4, 5 and 6 reveals large group differences. Chapter 8 discusses various sub-items from which the differences between groups can be further explained. This chapter takes that analysis one step further and looks at two important underlying variables. The first of these is level of education, which appears to be very decisive for the net contribution. The level of education, in turn, is strongly influenced by another important variable: the so-called Cito score for the Cito's End-of-Primary-School-Test (for short Cito Test). The Cito Test is used to support the so-called 'school advice' on placement in secondary education in the Dutch school system, which is given by the primary school teacher. A peculiarity of the Dutch school system is that secondary education is highly stratified with six or seven levels and that pupils are placed at the most appropriate level based on the school advice, that is, based on the judgment of the primary school teacher and more objective measures such as the Cito Test and/or an intelligence test (IQ test). For a large part of the pupils, the Cito score is very decisive for the final educational level (for more information see the term *Cito score in the Glossary*). Based on the Cito score and education data of millions of individuals [319], the relationship between Cito score, education level and net contribution is examined, as well as how group differences in net contribution can be explained by Cito score and education level[320]. In this introduction, these relationships are further explained.

Figure 9.1 Schematic depiction of the correlation between Cito score, education level and net contribution.

In broad terms, the relationship between Cito score, education level and net contribution is as follows (see Figure 9.1 for a schematic representation). Cito scores are very good predictors of education level and labour market performance (§9.2). This is a logical consequence of the fact that they are intended for determining the level of secondary education. The level of secondary education is – after any further studies – a major determinant of the ultimate highest level of education attained. In turn, the highest level of education attained is of decisive importance for labour market performance and income, and thus for the net contribution to the treasury (§9.3). Based on the relationship between the Cito score, education level and net contribution, the net contribution to Cito score can also be calculated (§9.4). All this relates to the relationship between Cito score, education and net contribution for the population as a whole.

[319] Cito score 1.8 million, current education 2.7 million, highest obtained education 6.9 million.

[320] In this chapter, we generally use averages per generation, origin group and/or migration motive. For the Cito score, the average over the years 2006-2018 is used. For the current and highest attained education, we have averaged over the years 2015 and 2016. However, for the calculations in Figure 9.3, 9.8, 9.9 and 9.18, longitudinal data was used; for the Cito score over the period 2006-2018 and for the current and highest obtained education over the period 2009-2017. These periods are too short for a calculation in one go. Therefore, data from different cohorts have been combined. Figures 9.3, 9.8, 9.9 and 9.18 are therefore synthetic; see the term *synthetic* in the Glossary, the explanation of the figures themselves in the main text below and in the Technical Appendix.

In §9.5 to §9.9 group differences in net contribution by region of origin, generation and immigration motive are discussed. The group differences in Cito score and education – and their mutual correlation – are discussed in §9.5 (for the first generation) and §9.6 (for the second generation). §9.7 discusses group differences in Cito score according to immigration motive. Next, the differences in net contribution by immigration background and education level are discussed (§9.8). §9.9 discusses the differences in net contribution to Cito score between native Dutch people and people with a second-generation Western and non-Western immigration background.

This is followed by some in-depth sections. First, the intergenerational relationship in Cito scores (§9.10) and the effect of mixed parent pairs on the level of Cito score (§9.11) are discussed. Subsequently, §9.11 examines to what extent the observed group differences in net contribution arise at the time of admission to the Netherlands or in the Dutch education system or on the Dutch labour market.

To facilitate these analyses, two key concepts are first introduced. The first key concept is Cito return. Cito return refers to the distribution over the different education levels for a certain Cito score: the greater the relative share of the higher education levels, the greater the Cito return for that Cito score. The second core concept is education return. Education return refers to the net contribution of people from a certain group with a certain education level: the higher the net contribution, the greater the education return for the group concerned for that education level.

Where we refer in the following sections to group differences, this refers to differences between groups of people with an immigration background, based on a subdivision by region of origin and/or immigration motive. Group differences can now occur at three levels that contribute to the group differences in net contribution observed in previous chapters (see Figure 9.2 for a schematic representation). First, as will become apparent shortly, there are considerable group differences in Cito scores. In addition, there are group differences in the relationship between Cito score and education level (Cito return) and in the relationship between education level and net contribution (education return). The group differences in net contribution over the life course are the sum of the group differences that can arise at each level, which is symbolized by the plus signs in Figure 9.2. §9.12 examines in more detail the question of which level contributes to what extent to the development of group differences in net contribution.

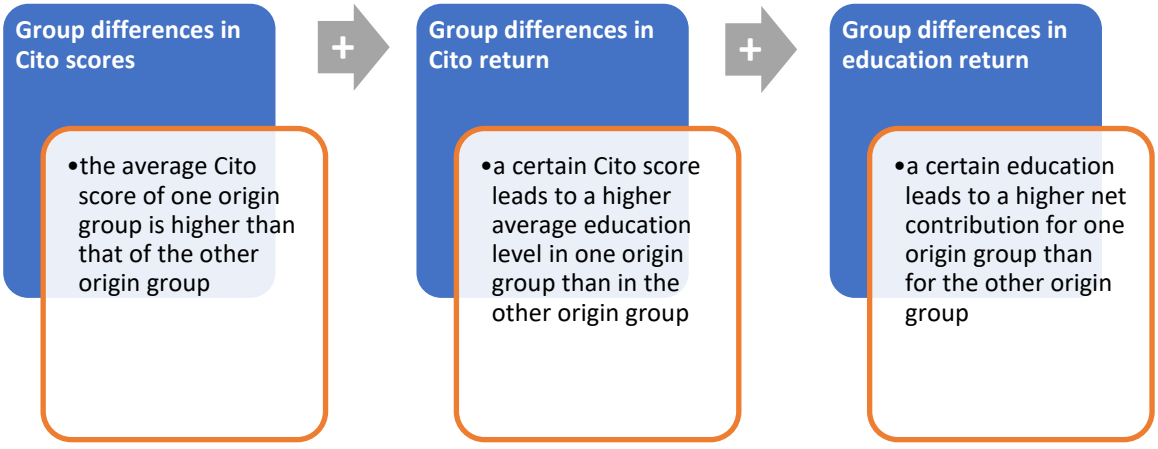


Figure 9.2 Schematic depiction of the causes of group differences in net contribution.

9.2 Correlation between Cito score, education, labour and income for the entire population

Cito scores are very decisive for the net contribution over the life course. After all, the Cito score reflects the school success of a pupil in primary school and also plays an important role in the school advice for secondary education. As Cito scores are related to the type of secondary education pursued, they are also very determinative for the ultimate highest level of education achieved and thus for labour market success, income and eventually also the net contribution over the life course.

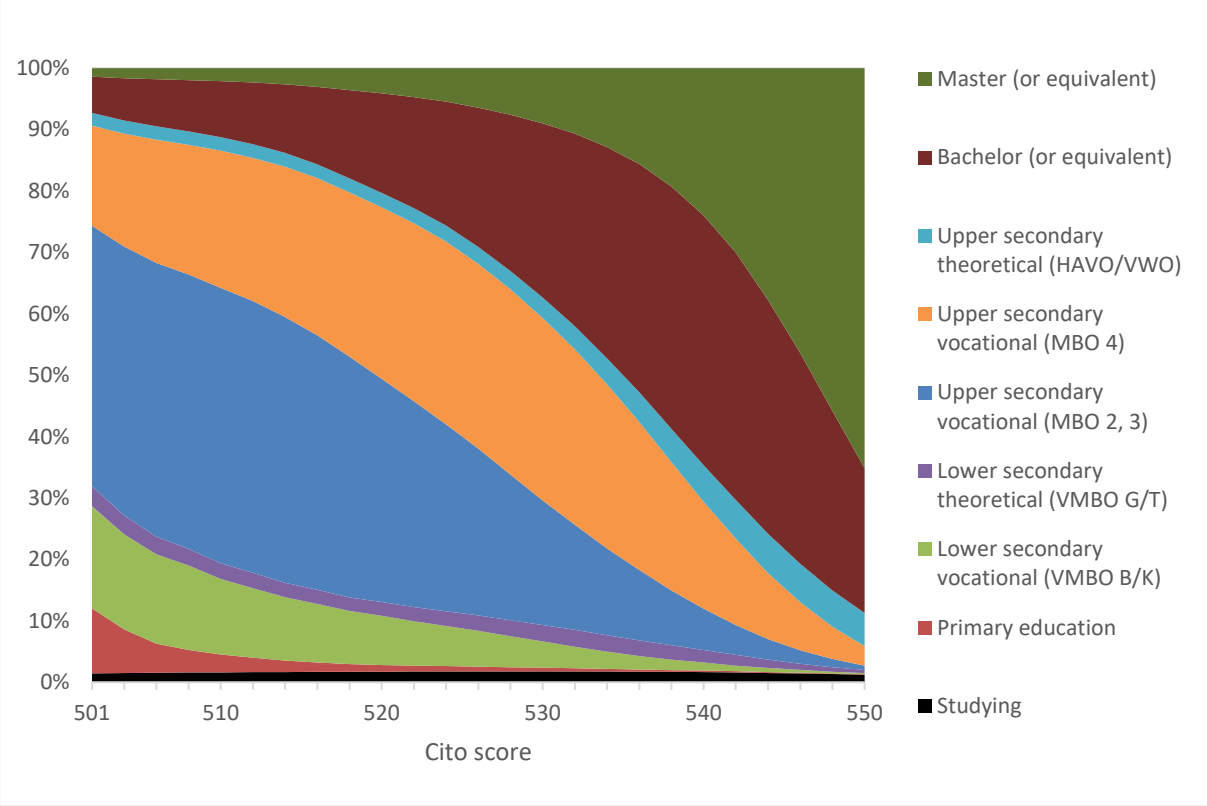


Figure 9.3 Distribution of highest education attained for 38-year-olds, according to the Statistics Netherlands SEC 8-part division, by Cito score (smoothed, synthetic). Source: our own calculation based on Statistics Netherlands microdata.

Cito scores are generally a good predictor of the highest level of education achieved. This is illustrated in Figure 9.3 for people aged 38. This figure was made by following[321] several large groups (an average of about half a million people) over the time, from the year in which the Cito score was taken through secondary education to the ultimate highest education attained at the age of thirty-eight[322]. There are no continuous data series with which people can be followed from the moment of the Cito Test (group

[321] First, for three-year cohorts of Cito scores (approximately half a million observations) it was examined what the highest attained or current education was at the age of 21. Subsequently, on the basis of three other year cohorts, it was investigated to which highest attained or current education level this would lead on average for ages 21 to 28. This last step was repeated until the highest attained or current education was known for each combination of Cito score, generation and origin group for all ages up to and including 38 years. The distribution over education levels shown here is therefore synthetic (see Glossary), i.e., composed of different cohorts. See also the Technical Appendix.

[322] Such a distribution has been made for the ages 21 to 38 years, for the population as a whole and broken down into Dutch and first and second-generation Western and non-Western immigration background, which are used to produce Figure 9.9 and Figure 9.18.

8 of primary school) to 38 years. Figure 9.3 is therefore synthetic (see Glossary), i.e., composed of different cohorts. The educational levels are according to the 8-part division of the Standard Education Classification (SEC) of Statistics Netherlands (see Glossary). It can be seen that each Cito score gives a different chance of achieving a low, intermediate or high level of education. If we limit ourselves to the most common types of education and only the lowest and highest Cito score, the proportions are as follows. Of the 38-year-olds with the lowest possible Cito score of 501, 59% have a upper secondary vocational education (mbo2, mbo3 or mbo4) and 7% have a tertiary education (bachelor, master or equivalent).[323] Of the 38-year-olds with the highest Cito score of 550, 4% have a upper secondary vocational education and 89% have a bachelor or master degree.

Table 9.1 Personal primary income (PPI) by highest education attained, according to the Statistics Netherlands SEC 8-part division, 20-65 years, 2-year age groups (up to 40 years) and 4-year age groups (from 40 years). Average PPI (M) (weighted by duration of age groups) and minimum standard deviation (Min. SD) and maximum standard deviation (Max. SD) of the PPI per age group. Source: our own calculation based on Statistics Netherlands microdata.

Highest attained education	***M***	***Min. SD***[1]	***Max. SD***[1]	***N***
Primary education	€10,000	€7,000	€27,000	219,000
Lower secondary vocational (VMBO B/K)	€18,000	€11,000	€29,000	366,000
Lower secondary theoretical (VMBO G/T)	€18,000	€13,000	€29,000	149,000
Upper secondary vocational (MBO2 and MBO3)	€25,000	€16,000	€24,000	835,000
Upper secondary vocational (MBO4)	€30,000	€15,000	€41,000	826,000
Upper secondary theoretical (HAVO, VWO)	€31,000	€17,000	€71,000	283,000
Bachelor or equivalent	€44,000	€16,000	€51,000	1,252,000
Master or equivalent	€62,000	€18,000	€97,000	808,000

[1]For Bachelor or equivalent and Master or equivalent the group 20-21 years is excluded due to too small N.

The level of education, in turn, is a major determinant of income. Table 9.1 shows the amounts for personal primary income by highest education attained. The amounts clearly depend on the level of education and the differences are considerable: from approximately €10,000 for primary education to approximately €62,000 for university master's degree of equivalent. The dispersion of income (standard deviation, *SD*) depends very much on age and is low for people in their twenties and high for people in their forties and fifties. The level of income has a major influence on the payments of taxes and premiums and on various matters such as healthcare consumption and the receipt of income-related allowances and provisions (see Chapter 8, in particular §8.13).

[323] This can be either a higher vocational education or a university degree.

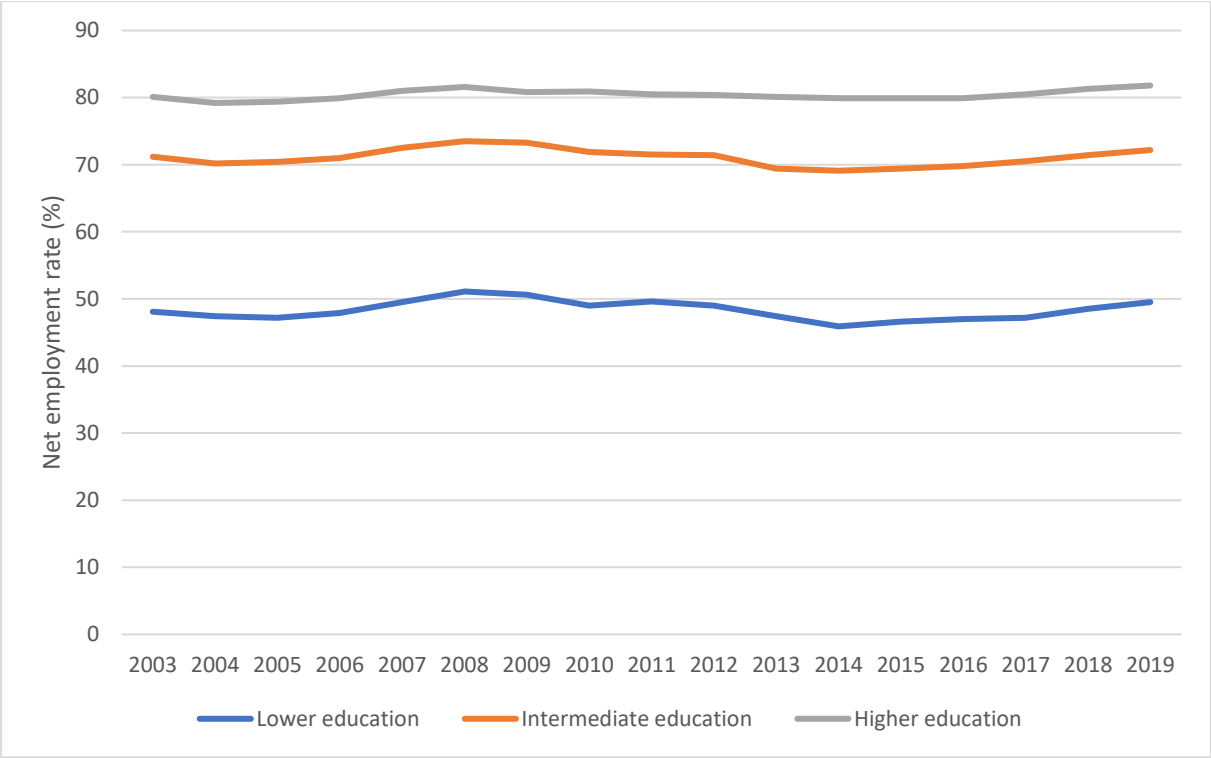


Figure 9.4 Net employment rate (%) by education level, 2003-2019. Source: Statistics Netherlands StatLine.[324]

In addition, both unemployment and labour participation are highly dependent on the level of education. The higher the level of education, the higher the labour participation rate. Figure 9.4 shows the labour participation for the Statistics Netherlands threefold division into lower, intermediate and higher (tertiary) education levels. People with a high level of education have a net employment rate of approximately 80% and with an intermediate education level this is approximately 70%. People with a low education level have a significantly lower net labour participation rate of approximately 50%.

Unemployment also strongly depends on the level of education (see Figure 9.5). On average over the period 2003-2018, unemployment among people with an intermediate education level was 1.6 times higher than the unemployment rate for people with a high education level. The ratio between low and high levels of education is even 2.7 over the same period. In addition, Figure 9.5 shows something else: unemployment is more sensitive to the economic cycle as the level of education is lower, in the sense that the bandwidth within which unemployment moves is wider as the level of education is lower. In other words, people with a higher education level have more job security and are less affected by economically difficult times.[325]

[324] Net labour force participation: "The share of the employed labour force in the population (working and non-working population)", Statistics Netherlands StatLine, *Arbeidsdeelname; kerncijfers*, retrieved 24-1-2021 from: https://opendata.cbs.nl/statline/#/CBS/nl/dataset/82309NED/table?dl=38BB7

[325] See, for example, Statistics Netherlands, *Werkloosheid daalt sterker onder laagopgeleiden,* retrieved 31-12-2020 from: https://www.cbs.nl/nl-nl/nieuws/2017/29/werkloosheid-daalt-sterker-onder-laagopgeleiden

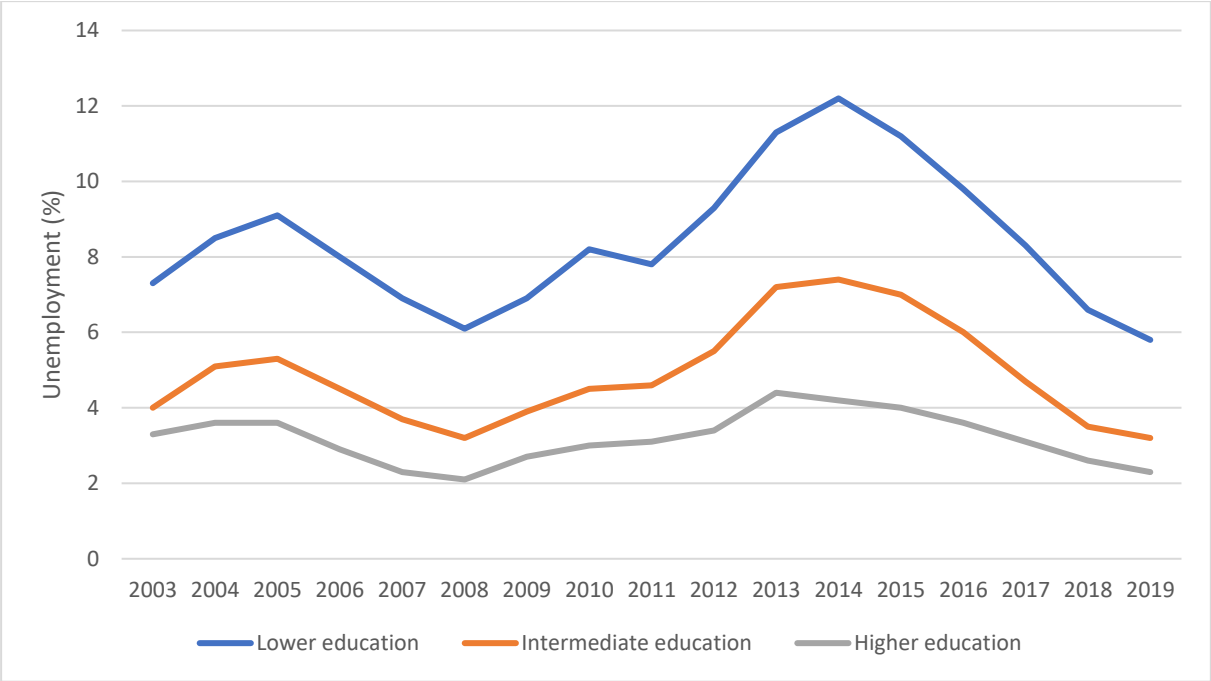


Figure 9.5 Unemployment (%) by education level, 2003-2019. Source: Statistics Netherlands StatLine. [326]

9.3 Net contribution to education for the entire population

The large differences in labour market performance are reflected in the net contribution to the treasury. The welfare state provides for redistribution between citizens through taxes, premiums, benefits, subsidized care and many other, often income-dependent provisions and allowances. In general, there is a net flow of money through the government from people who earn relatively high incomes to people who earn relatively low incomes. Because income is strongly related to education, there is in fact roughly speaking a redistribution from people with a relatively high level of education to people with a relatively low level of education. The highest level of education attained is therefore a good predictor of the net fiscal contribution over the life course.

Figure 9.6 shows profiles for the net contribution by age for the standard education classification (SEC) of Statistics Netherlands (8-part division). It can be seen that the level of the net contribution per age year from approximately age 25 onwards is clearly ordered by level of education. People whose highest level of education is (at the most) primary school will never exceed the zero line in terms of net contribution during their lives. They are therefore net recipients every year of their lives through the redistributive effect of the welfare state. People with the highest attained level of education lower secondary vocational (VMBO B/K) or theoretical (VMBO G/T) average just below zero during the working part of their lives, while there are significant costs for education and old age. They are also net recipients of the treasury over their entire lifespan.

For people with mbo2 or mbo3 (upper secondary vocational education) as their highest attained level of education, the net contribution over the working part of their life amounts to a maximum of approximately €4,000 per year, and for people with an mbo4 education, it is €9,000 per year. For holders of a HAVO or VWO diploma (upper secondary theoretical education), the maximum net contribution

[326] Statistics Netherlands StatLine, *Arbeidsdeelname; kerncijfers*, retrieved 24-1-2021 from: https://opendata.cbs.nl/statline/#/CBS/nl/dataset/82309NED/table?dl=38BB7

is €13,000 per year. However, for these levels of education too, the costs of education and pension mean that the net contribution over the entire life course is negative.

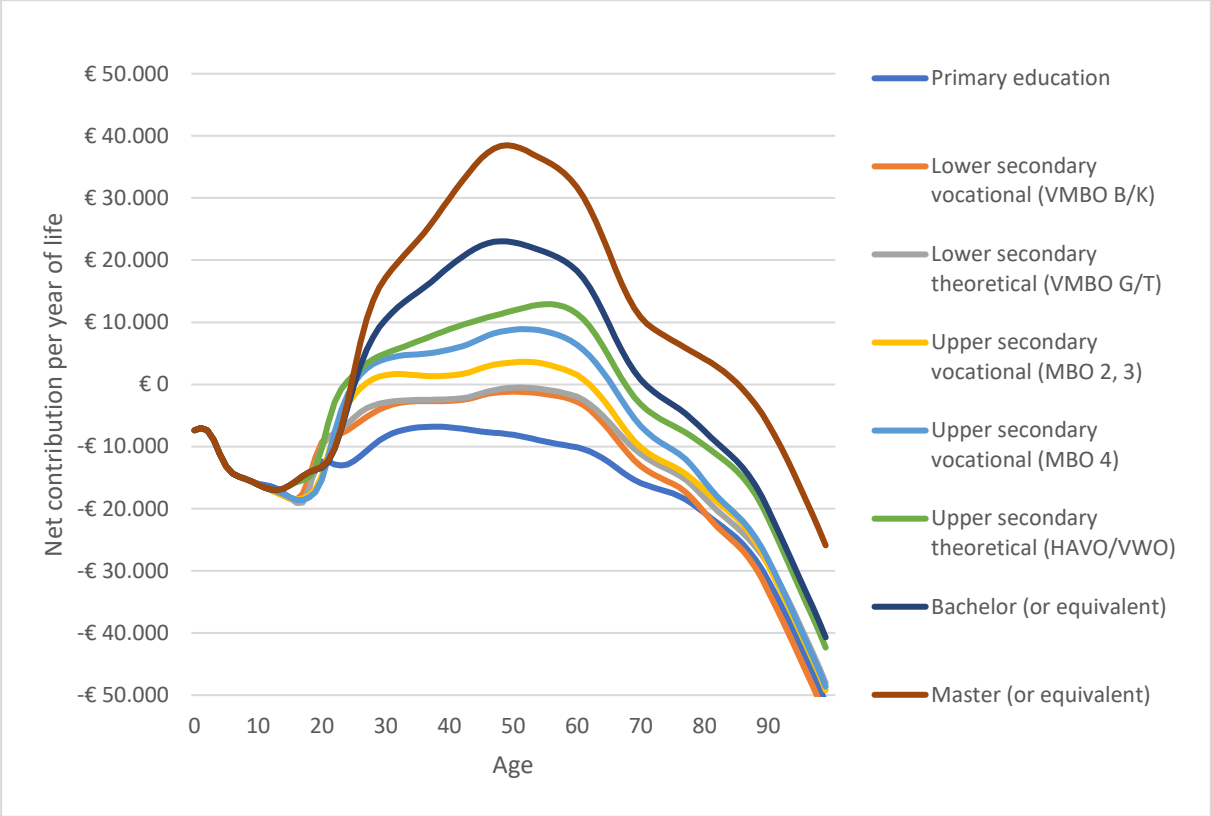


Figure 9.6 Net contribution per year of age by education level, according to the Statistics Netherlands SEC 8-part division. Our own calculation based on Statistics Netherlands microdata.

People with a master's degree as the highest level of education have by far the highest annual net contribution, followed at a considerable distance by people with a bachelor's degree[327]. For those with a bachelor's degree, the maximum annual net contribution during working life is €23,000 per year and for a master's degree even peaks at more than €38,000 per year. Incidentally, these are also the only two levels of education for which there is a positive net contribution if one considers the entire life course (see Table 9.2).

The differences in net contribution between the education levels are considerable. Around the age of 50, the difference between primary and master's levels amounts to approximately €46,000 per year. The net contributions over the life course therefore differ greatly between the different levels of education (see Table 9.2). Expressed in euros for 2016, the difference in net contribution of someone with at most primary education (more than €500,000 negative) and someone with a master's degree (almost €500,000 positive) amounts to more than one million euros. The table also shows the large redistribution between the education levels that takes place via the treasury and the social funds.

The underlying causes for this large difference can be roughly divided into the categories income, labour market performance and redistribution. The more educated people are, the higher their income and the more tax they pay. Conversely, the less education people have, the lower their income and

[327] This may be a bachelor's degree from an institution of higher vocational education (*hoger beroepsonderwijs,* abbreviated as HBO) or a university degree.

therefore tax payments. Furthermore, they are more often unemployed and dependent on benefits, and they often benefit from income-related schemes such as allowances.

Table 9.2 Expected net contribution (over the life course) of people born in 2016, by level of education, according to the Statistics Netherlands SEC 8-part division. Source: our own calculation based on Statistics Netherlands microdata.

Highest attained education	Net contribution	N
Primary education	-€545,000	782,182
Lower secondary vocational (VMBO B/K)	-€394,000	646,182
Lower secondary theoretical (VMBO G/T)	-€368,000	266,326
Upper secondary vocational (MBO2 and MBO3)	-€284,000	1,115,940
Upper secondary vocational (MBO4)	-€175,000	1,001,120
Upper secondary theoretical (HAVO, VWO)	-€49,000	396,324
Bachelor or equivalent	€128,000	1,443,886
Master or equivalent	€477,000	910,534

9.4 Net contribution by Cito score for the entire population

Just like the level of education, the Cito score is very decisive for the net fiscal contribution over the life course. This is largely due to the differences between education levels. Higher Cito scores more often lead to higher education levels (§9.2) and a higher education level leads on average to a higher net contribution (§9.3).

In addition, Cito scores during the youth phase are also more directly related to costs and benefits. During the compulsory education period, there are few benefits and only two major costs, namely health care and education. There are significant differences in the annual costs for health care between the different Cito score and age groups (Figure 9.7 top). Children with a low Cito score require relatively more health care.

Education costs[328] are also considerably higher for students with a low score than for educational participants with an average or high score (Figure 9.7 middle). For the compulsory education period, children with lower Cito scores have higher education costs on average because they more often attend practical education, special education or learning support education. These are forms of education with intensive supervision and correspondingly higher personnel costs. What also plays a role is the extra funding of primary schools for children with one or two parents with a (very) low education level, based on the so-called pupil weight (see Figure 9.7 bottom).

[328] Up to and including 23 years; for higher ages there are no data for a direct calculation.

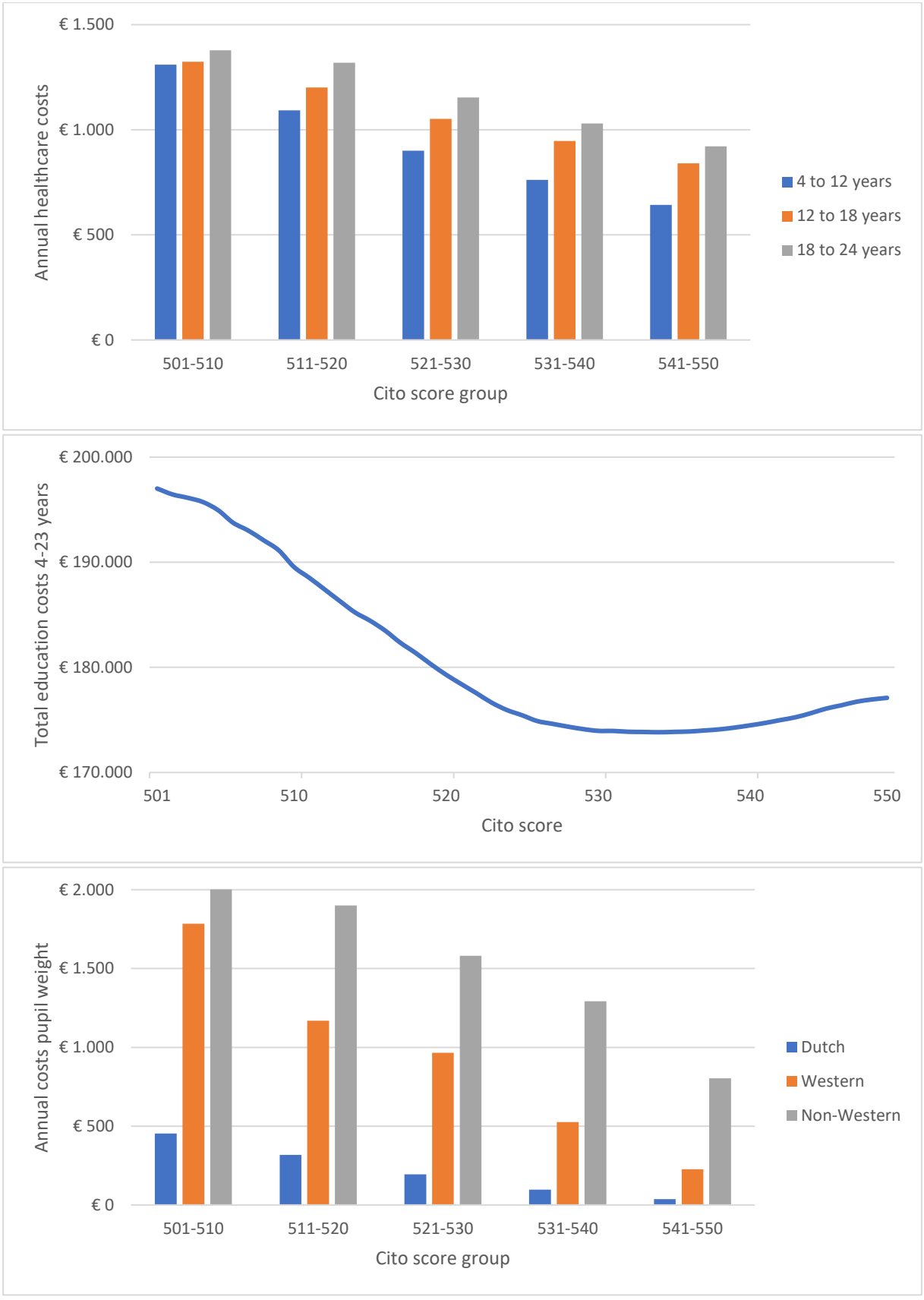


Figure 9.7 Three cost profiles by Cito score. Top: Average annual health care costs for three age groups. Middle: total costs of education 4-23 years (smoothed). Bottom: additional funding for primary education based on pupil weight, broken down by immigration background. Source: our own calculation based on CBS microdata.

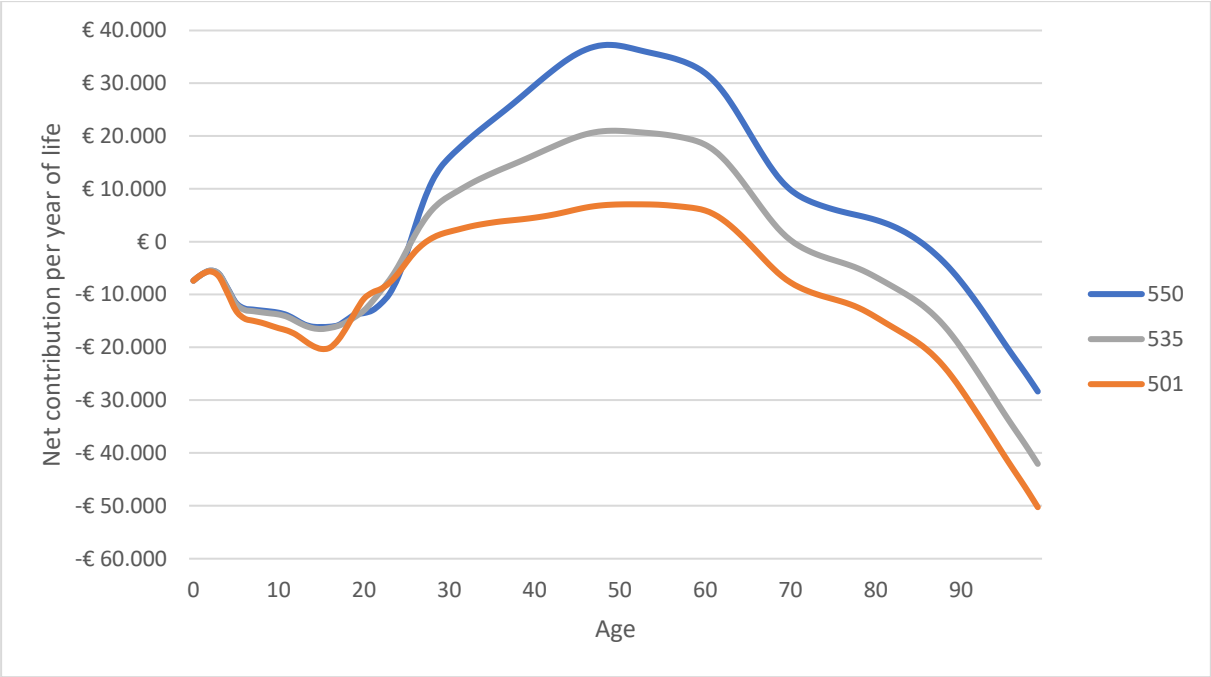


Figure 9.8 Net contribution by year of age (smoothed, synthetic) for three Cito scores: the lowest possible Cito score (501), the highest possible Cito score (550) and the average Cito score for the Dutch population (535). Our own calculation based on Statistics Netherlands microdata.

Based on this data on the direct costs and benefits according to Cito score[329] and the data on the highest education achieved according to Cito score (see Figure 9.3), it is possible to draw up a profile for the net contribution by year of age by Cito score. This has been done in Figure 9.8 for several Cito scores, namely the lowest possible Cito score (501, orange line), the highest possible Cito score (550, blue line) and the average Cito score (535, grey line).

It can clearly be seen that for the lowest Cito score of 501 (orange line), the net contribution during the compulsory education period is relatively low. As mentioned, this is due to the high education costs associated with extra funding for primary education and expensive forms of (special) secondary education. For the average Cito score (535, grey line) and especially for the highest Cito score (550, blue line), education costs are low during the compulsory education period, but high for people in their early twenties because many continue their studies. There is an unambiguous picture – also for the intermediate values not shown – for the working period and retirement period for all Cito scores: a higher Cito score leads on average to a higher net contribution.

Figure 9.9 shows the net contribution for each Cito score, i.e., the net contribution over the life course.[330] The net contribution differs greatly per Cito score. For the lowest Cito score, the net contribution is almost €500,000 negative. For the highest Cito score, the net contribution is almost €300,000 positive. The total difference between the highest and lowest Cito score is therefore approximately €800,000.

[329] See previous footnote.

[330] The profile shown is synthetic: it has been compiled by combining data from a large number of people belonging to different Cito and education cohorts. For details see footnote 321, the Glossary and the Technical Appendix.

The Cito score is very decisive for the net contribution of people: a one point higher Cito score yields approximately €20,000 extra net contribution over the life course. For Cito scores around the Dutch average (530-540), every higher Cito point yields €15,000 to €25,000 extra net contribution. The increase in the net contribution per Cito point is greater for the higher Cito scores. What applies to individuals – a higher Cito score leads to a higher net contribution – also applies to the various origin groups; an increase in the group average of one Cito point increases the net contribution by approximately €20,000.[331] ↲

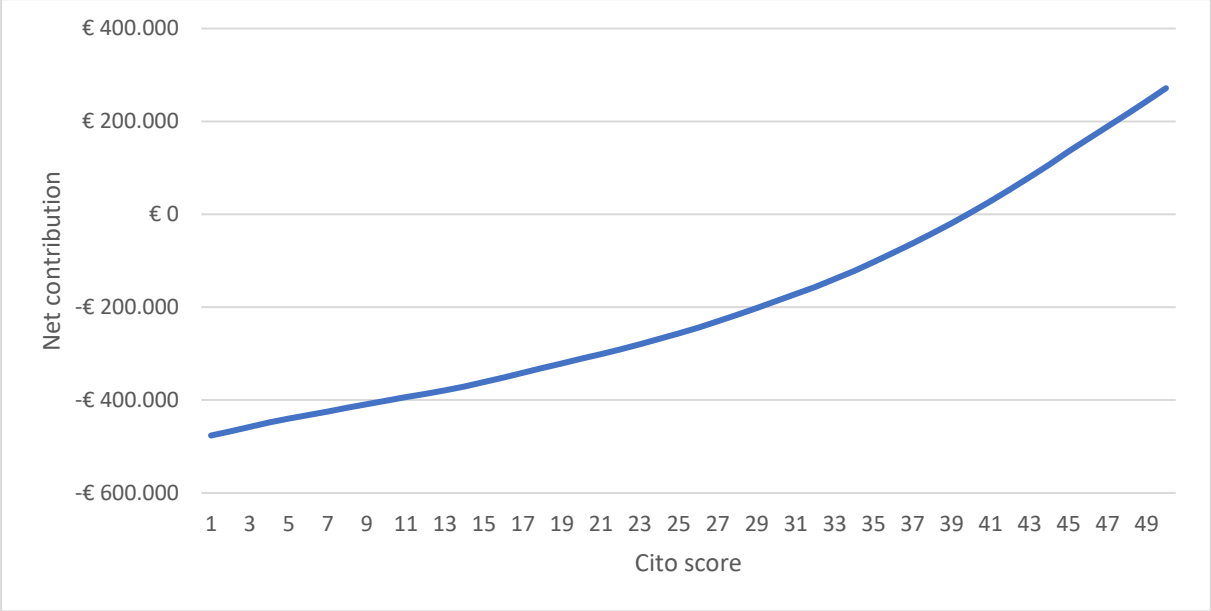


Figure 9.9 Net contribution over the life course by Cito score for the Dutch population, 2016 (smoothed, synthetic). Our own calculation based on Statistics Netherlands microdata.

9.5 Group differences in Cito score and education for the 1st generation

Group differences in Cito scores and education level are related in several ways. There are therefore various conceivable ways to map this correlation. From the point of view of policy relevance, the education level of the first generation is probably the best starting point. In the admission policy of classic immigration countries such as Canada and Australia, education is one of the grounds for admission, and the so-called knowledge worker is also an admission category for the Netherlands that has become increasingly important in recent years.

On average, immigrants are less educated than native Dutch people and there is often a significant difference in education level, especially between native Dutch people and non-Western immigrants. There are also considerable differences in education level between the different origin groups. Figure 9.10 (above) shows the education level by immigration background for people aged 25 to 65 for the Statistics Netherlands 12-part division. Only among immigrants from the Other outside Europe region – which includes North America, Oceania and Japan – is the proportion of people with at least a bachelor's degree higher than among native Dutch people. The opposite is true for all other groups in this figure. ↲

[331] The precise increase in the net contribution of a group for a one point higher average Cito score depends somewhat on the distribution over all Cito scores of the group in question, because the slope of the curve (i.e. increase in net contribution per extra Cito point) increases with the Cito score.

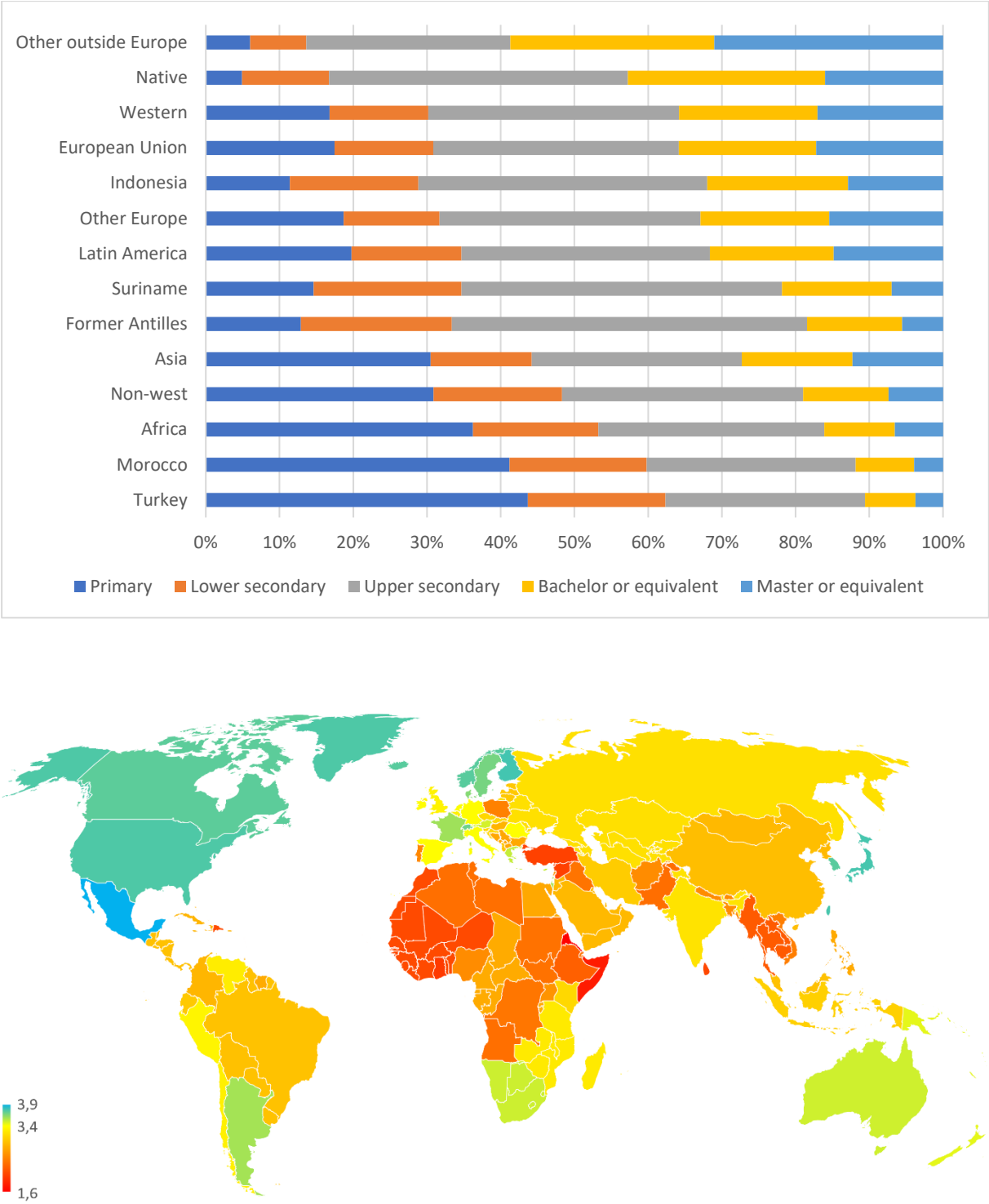


Figure 9.10 Bar chart above: Education level according to the SEC 5-part division of first-generation immigrants, aged 25 to 65, by immigration background according to the 12-part division into regions of origin and in ascending order by education level. World map below: Average education level according to the SEC 5-part division of first-generation immigrants, 25 to 65 years, by immigration background according to the 87-part division into regions of origin, weighted average: primary education = 1 and master's degree = 5. Source: Our own calculation based on Statistics Netherlands microdata.

Figure 9.10 (below) shows the average education level by immigration background for people aged 25 to 65 for the 87-part division into world regions, measured on the SEC 5-part division, which runs from 1 (primary education) to 5 (master's degree). It can be seen that on average highly educated immigrants come from France, Switzerland, Scandinavia, East Asia, Oceania, North America, Mexico, Argentina, South Africa and Israel. Immigrants from the Caribbean, many countries in Africa, the Middle East and Indochina, for example, are poorly educated, just like immigrants from Poland and Portugal, for example. The five countries of origin with the lowest average education level are Somalia, Eritrea, Syria, Ghana and Turkey.

The level of education for the elderly and for first-generation immigrants is not registered for everyone. Furthermore, education levels between countries are not always directly comparable. Therefore, results related to the education level of the first generation should be interpreted with caution. For this reason, in terms of education level, this chapter has chosen to focus where possible on the second generation and the young first generation with regard to Cito score and secondary school education received in the Netherlands.

The remainder of this section examines differences in educational participation and Cito scores among first-generation origin groups, for the division into 42 world regions (excluding the Netherlands).[332] First, we briefly discuss the relationship between the education level of the parents and the Cito scores of the children. Next, group differences in Cito scores and secondary education are discussed.

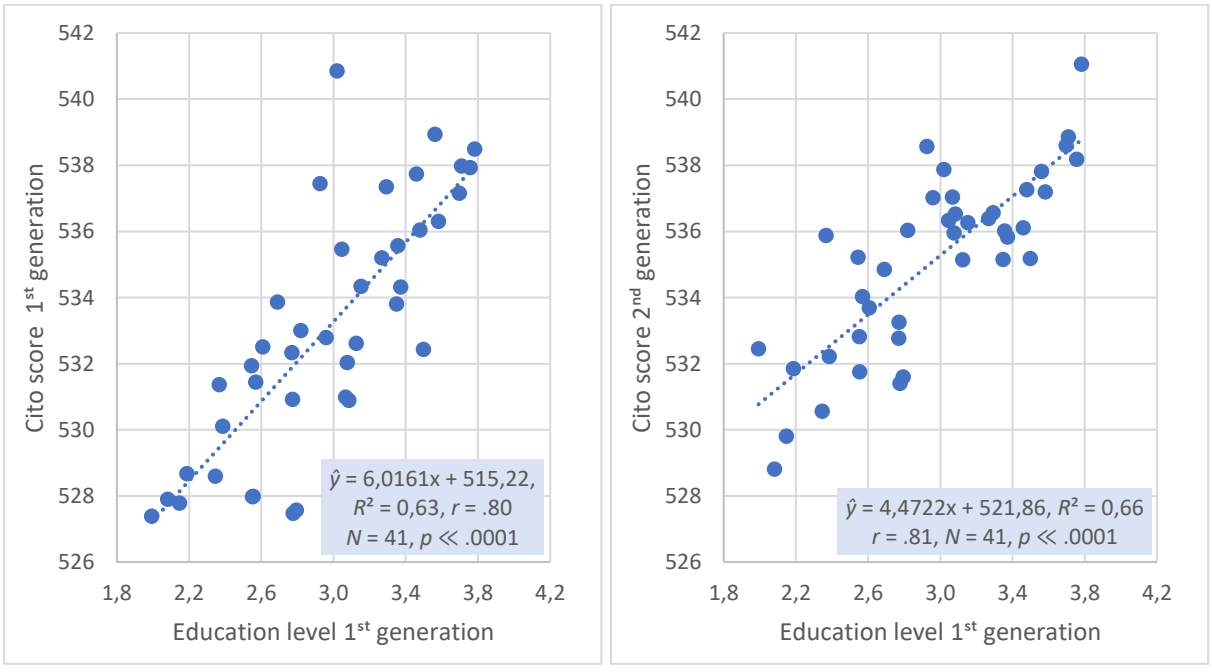


Figure 9.11 Correlation between the average highest attained level of education (according to the Statistics Netherlands SEC 5-part division, reporting year 2016) for people with a first-generation immigration background, aged 25 to 65, and the average Cito scores (reporting years 2006-2018) of people with a first (left) or second- (right) generation immigration background, for 41 regions of origin, weighted average: primary education = 1 and master's degree = 5. The dotted lines are trend lines (regression lines). Our own calculation based on Statistics Netherlands microdata.

[332] To avoid misunderstandings: this section always concerns the correlation of the means of regional groups and not the correlation measured at the individual level.

The education level of the first generation is very decisive for the Cito scores and the further school and labour market success of first[333] and second-generation children. The large group differences in education level among the first-generation immigrants largely explain the also considerable group differences in the Cito scores of their children. This is illustrated in Figure 9.11 left where for the 42-part division (minus the Netherlands) the average Cito score of the first generation is compared with the average education level of the first generation. It can be seen that there is a strong linear relationship between the two. A few East Asian countries are somewhat an exception to the rule here: for the region of China, Mongolia and North Korea and for the Asian tigers South Korea, Taiwan, Hong Kong and Singapore, the low education level of the first generation by Dutch standards is nevertheless accompanied by relatively high Cito scores. Figure 9.11 right shows a similar relationship between the average education level of the first generation and the average Cito score of the second generation, but with a smaller slope. All in all, group differences in the education level of the first generation explain roughly two-thirds of the group differences in Cito scores of the first and second generation. ↲

The previous findings are in line with other evidence for the association between the education level of the first generation and the Cito scores of the first and second generation. Recent research by the CPB Netherlands Bureau for Economic Policy Analysis (CPB) finds a comparable result with regard to the effect of education level of the parents on the Cito score of the second generation.[334] There also appears to be a strong relationship[335] between Cito scores and the so-called pupil weight[336], which is derived from the education level of the parents. A low average pupil weight indicates a high proportion of low-skilled parents and vice versa. An important exception here is (once again) the region of China, Mongolia and North Korea, which has a relatively high pupil weight – on average the parents are not highly educated[337] – while the children have high Cito scores.[338] Other indirect evidence of the relationship between the education level of the parents and the Cito score of the children can be found in differences in income: for native Dutch parents as well as for Western and non-Western parents, a higher income (closely related to education level) is associated with a higher Cito score in the children.[339]

The average Cito scores for first-generation ethnic groups vary considerably. Figure 9.12 shows the differences in Cito scores for the first generation. The benchmark value (yellow shades) is the average

[333] Some of the first generation of immigrants come to the Netherlands at a very young age.

[334] For the second generation, a high education level of the parents has an effect on both cognitive skills (language and maths, approx. 0.4 *SD* difference) and non-cognitive skills (behaviour and work ethic, approx. 0.2 *SD* difference). Zumbuehl, M. & Dillingh, R. (2019), pg. 8-10

[335] This relationship is non-linear: regression equation: Citoscore = -2.256 × ln(Pupil weight) + 529.54, R^2 = 0.6547, for 41 1st and 41 2nd generation groups. The pupil weights of 1st-generation immigrants from Japan and Israel are equal to 0, and in order to estimate the logarithmic regression these values have been replaced by the minimum of the other pupil weights, being 0.0052.

[336] The pupil weight forms the basis of the system by which primary schools receive extra money for children of low-educated parents. Children with one or two uneducated and/or very low-educated parents count extra in the funding of primary schools. See also Chapter 8.

[337] Chinese immigrants from the cohorts up to the year 2000 were often low-skilled, while their children had above-average school success, see Gijsberts, M., W. Huijnk & R. Vogels (red.) (2011), pg. 23 and 54.

[338] Removing the two data points (first and second-generation children are included separately in this graph) for China from Figure 9.11 increases the explained variance from 65.5% to 71.7%.

[339] See, for example, Statistics Netherlands StatLine, *Score eindtoets basisonderwijs Cito; gezinskenmerken, 2005-2010,* retrieved 12-12-2020 from: https://opendata.cbs.nl/statline/#/CBS/nl/dataset/83393NED/table?dl=40F98.

score for native Dutch people (536). The difference between the highest and the lowest score is significant at approximately 13.5 points (1.4 standard deviations). We find high Cito scores in the Anglo-Saxon and Scandinavian countries and a group of East Asian countries. The highest Cito scores (541) are achieved by first-generation children from South Korea, Taiwan, Hong Kong and Singapore. The lowest Cito scores (from 527 to 530) are obtained by students from Aruba and the former Antilles, the Caribbean, Suriname, Portugal, Turkey, Pakistan, Morocco, Central and West Africa and the Horn of Africa region and Sudan.

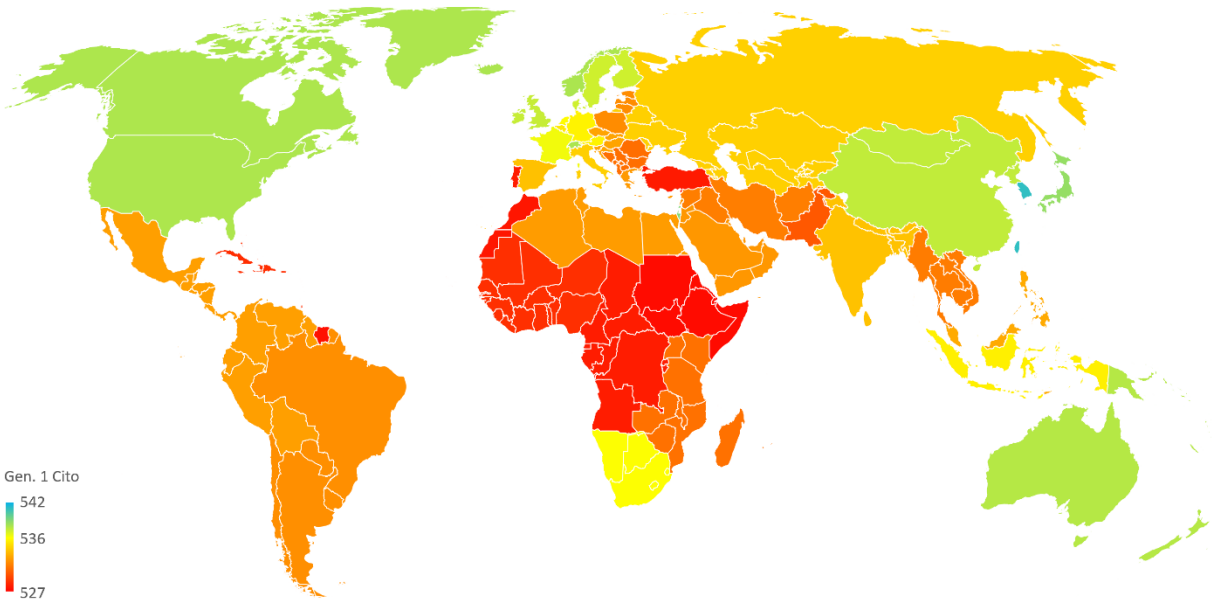


Figure 9.12 Cito scores of people with a first-generation immigration background, by region of origin, 2006-2018. Source: our own calculation based on Statistics Netherlands microdata.

In addition, there are some notable differences within continents. In Asia, Israel (difficult to see on the map) with 539 has an average Cito score that is much higher than for first-generation children from neighbouring countries.

In Europe, first generation children from Southern Europe and Central and Eastern Europe have average Cito scores that are relatively low compared to other European countries. This may partly be explained by the generally rather dynamic labour immigration from these EU regions, which often does not benefit the school performance of first-generation children, although this needs to be further investigated.

In Africa, the Cito scores of first-generation children from Southern Africa – in practice mainly South Africa – compare favourably with the other African regions. Judging by, for example, the income[340], this largely concerns elite immigration. Some of the immigrants from South Africa also have older or younger Dutch roots.[341] For some non-Dutch speaking children from South Africa, the language similarity between Afrikaans and Dutch may also play a positive role in their school performance.

[340] For the ages 20-67, for example, the percentile of personal primary income is 2 points above that of the native Dutch population, own calculation based on Statistics Netherlands microdata, 2016.
[341] See the term *Southern Africa* in the Glossary for more explanation.

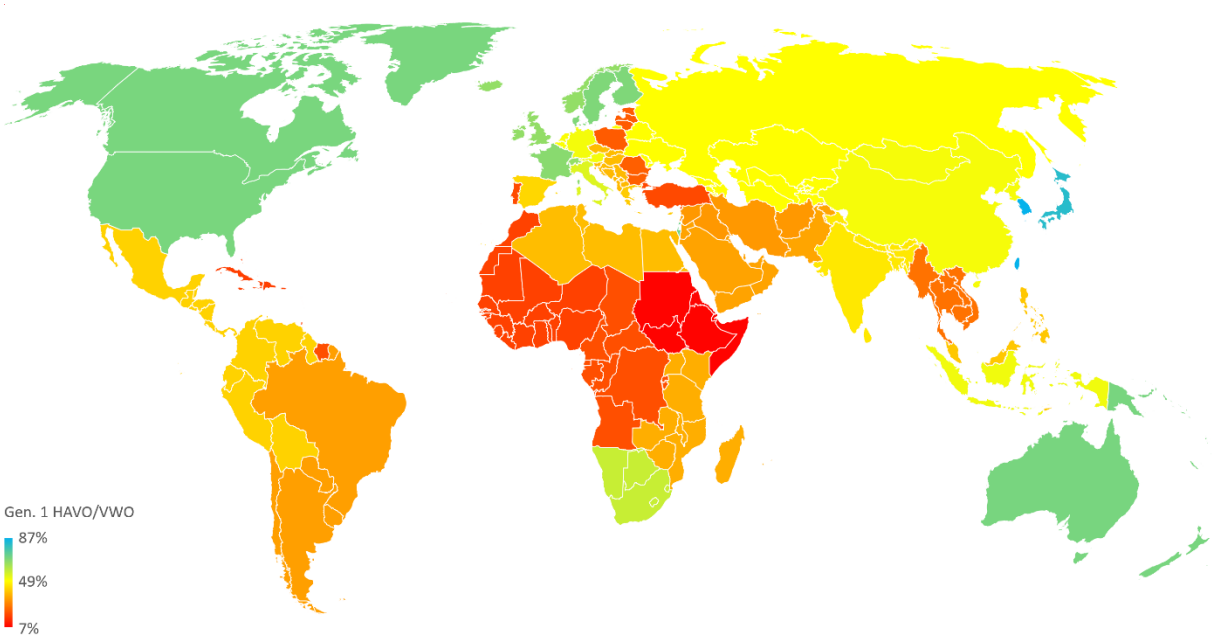


Figure 9.13 Share of HAVO and VWO (upper secondary theoretical education) students (%) among 15-year-old first generation immigrants, by region of origin. Source: our own calculation based on CBS microdata.

The group differences in Cito scores are broadly reflected in group differences in secondary education.[342] Figure 9.13 shows the share of participants in HAVO/VWO secondary education – school types that offer good prospects of a bachelors or masters – among 15-year-old first-generation students who, according to the CBS-definition, were born abroad. The percentage among native Dutch pupils (around 50% participation in HAVO/VWO) has been taken as a benchmark (yellow shades). Pupils from a number of countries – Germany, Austria, Belgium, Indonesia, China and the former Soviet Union – participate in HAVO/VWO secondary education about as often as native Dutch students. Among first-generation children from a limited group of countries – Southern Africa, the Anglo-Saxon and Scandinavian countries, France and Switzerland and a group of East Asian countries – the proportion of participants is above the Dutch average. Of the 15-year-old children from Japan, South Korea, Taiwan, Hong Kong and Singapore, as much as 85% are in HAVO/VWO secondary education. First-generation children from the other countries participate (much) less often than native Dutch children in HAVO/VWO secondary education. Students from Aruba and the former Antilles, the Caribbean, Suriname, Morocco, Turkey, Portugal, Central and West Africa all have participation rates below 20%. The lowest percentage is found among first-generation children from the Horn of Africa and Sudan region – including Somalia, Ethiopia and Eritrea – where the participation is 7.5%. The type of secondary education one follows is very decisive for the ultimate highest education attained, a point that will be further elaborated later. And because the highest level of education attained is very decisive for income, labour market participation and unemployment probabilities, the observed differences in HAVO/VWO secondary education participation more or less guarantee significant differences in net contribution in the later life of first-generation immigrants who come to the Netherlands at a young age.

[342] At first glance, it can already be seen that there are many similarities with the distribution over Cito scores for the 1st generation, a point that will be elaborated in the next section for the 2nd generation. In the (by definition) Dutch-born 2nd generation, there is less disruption of school performance due to the immigration process, which gives a clearer picture of this correlation.

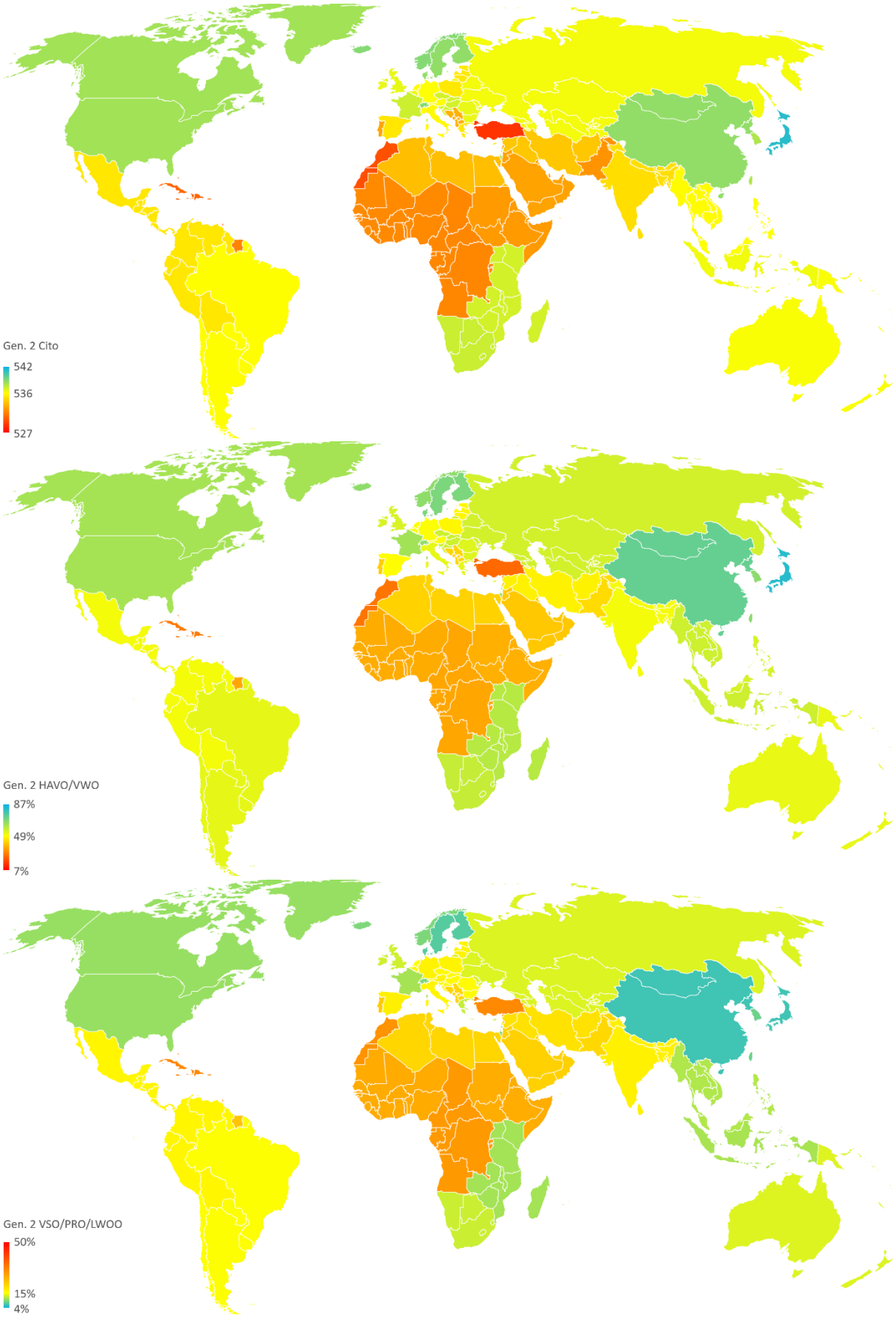


Figure 9.14 Cito scores (top), participation in HAVO/VWO (middle) and VSO/PRO/LWOO (bottom), 2nd gen., 42-part div. Note: scale is same as scale 1st gen. and does not reflect lowest/highest values. Source: CBS microdata.

9.6 Group differences in Cito score and education for the 2nd generation

There are also large differences in Cito scores between regions of origin for the second generation. This is shown for 2016 in Figure 9.14 (top). The Cito score is a good predictor of the type of secondary education and thus indirectly also of the ultimate education attained. In fact, the Cito Test is intended at determining the right level of secondary education in the highly stratified Dutch educational system (for more information see Glossary on Cito score and SEC). This can be seen very clearly in Figure 9.14 by comparing the world map with Cito scores with the world map with the proportion of HAVO and VWO students among 15-year-olds, for the second generation, as shown in Figure 9.14 (middle). As mentioned before (§9.5), HAVO and VWO – or in short HAVO/VWO – are two forms of upper secondary education that offer relatively good prospects of obtaining a bachelor's or master's degree.

As with the first generation (cf. Figure 9.13), participation in HAVO/VWO secondary education is high for countries such as Japan, the Asian tigers, the Anglo-Saxon countries and Scandinavia. In a number of regions with a low participation in HAVO/VWO in the first generation, the educational disadvantage of the second generation in comparison with the native Dutch population remains high. For three regions – Morocco, Turkey and the Caribbean – the participation in HAVO/VWO upper secondary education is lower than 30%. In Suriname, Aruba and the former Antilles, a large part of Africa, Pakistan, Portugal and the former Yugoslavia, the participation percentage is also below that of the native Dutch population.[343] This increases the likelihood of a low or negative net contribution from people with a second-generation immigration background from these regions.

In addition, a comparison[344] between Figure 9.14 (top and middle) and Figure 9.12 and Figure 9.13 respectively reveals that there are a number of regions with a large difference between the first and second generation. This applies to East Africa, China and a number of CEE countries, among others. Several possible explanations for this are conceivable. For East Africa, the degree of difference between the first and second generation is possibly related, among other things, to the proportion of 'mixed parent couples' – i.e., second-generation children with one parent born in the Netherlands – a point that will be elaborated upon in §9.11. A large language distance can possibly work to the disadvantage of first generation children born in China. For children from immigrants from the CEE countries – with many immigrant workers who commute back and forth – positive self-selection for long-term settlement in the Netherlands may play a role, in the sense that parents who choose to have their children born in the Netherlands (second generation) may be more likely to have chosen a future in the Netherlands, which could benefit the school achievements of the second generation. In addition, cohort effects can always play a role. However, further research is needed to shed more light on this.

[343] Reference is often made to the advance of students with a migrant background in higher education. There has been an upward march, but for many groups the gap is still substantial. According to Statistics Netherlands, in the third year of secondary education (i.e. around the age of 15), most pupils have made their final choice of type of education. In the 2006/2007 academic year, 46.2% of pupils with a Dutch background were in HAVO or VWO in that third year, 48.5% of those with a Western migration background and 29.6% of those with a non-Western background. In the 2021/2022 academic year, those percentages were 51.0%, 56.0% and 40.5%. In those two years, the percentages for Turkish background were 22.3% and 34.1%, for Moroccan background 19.8% and 37.6% and for Surinamese background 30.3% and 39.0%. Retrieved 05-4-2022 from: https://www.cbs.nl/nl-nl/dossier/dossier-asiel-migratie-en-integratie/hoe-verschillen-opleiding-en-school-keuze-naar-migratieachtergrond-

[344] In order to facilitate this comparison, both world maps have the same scale (i.e. the highest and lowest values correspond) and therefore the highest and lowest values in the legends in Figures 9.12, 9.13 and 9.14 (top and middle) do not always appear under the respective groups.

The bottom map in Figure 9.14 shows the participation in three types of special needs education that on average offer a relatively poor prospect of a high ultimate education level. This concerns Special secondary education (VSO) – which is meant for pupils with various clusters of physical and/or mental impairments and disorders – Practical education (PRO) – a form of secondary education for children with learning disabilities and a 'difficult learning intelligence profile' – and Learning support education (LWOO) – a form of education with smaller groups and extra attention that is usually offered at lower secondary level (see the Glossary for more details). It can be seen that participation in these three types of special needs education is inversely related to participation in HAVO/VWO upper secondary education. For regions of origin where participation in HAVO/VWO is high, participation in special education, practical education and learning support education is low and vice versa.

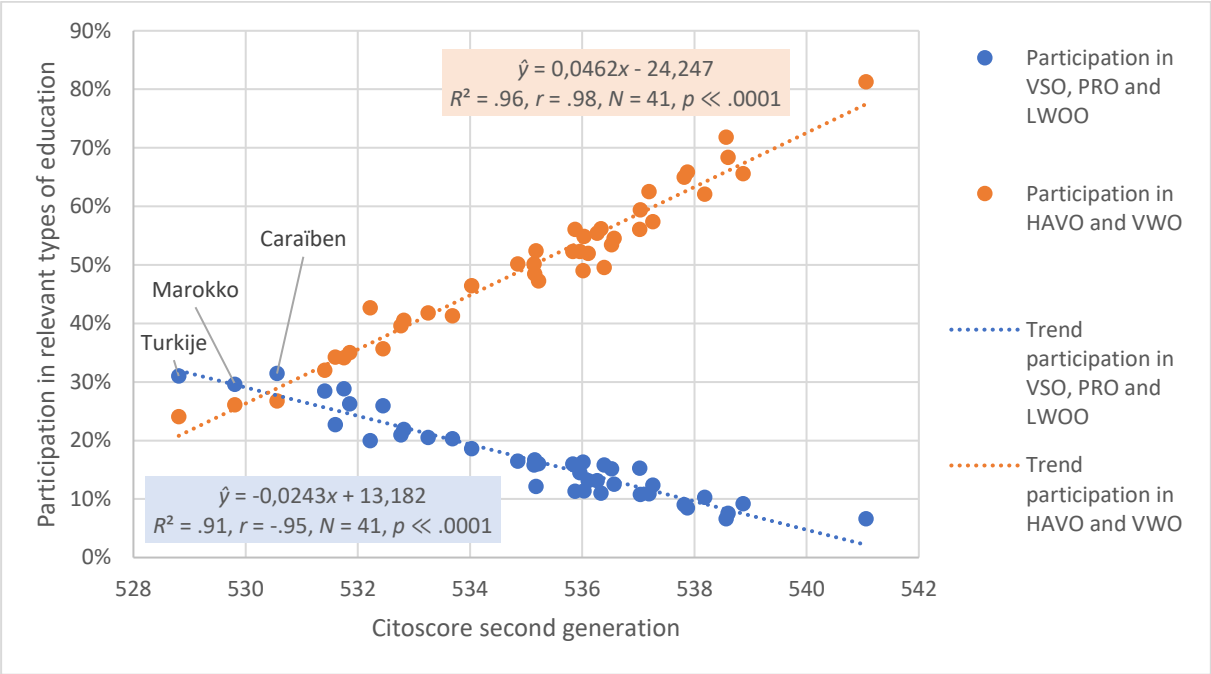


Figure 9.15 Correlation between Cito scores (2006-2018) on the one hand and the participation in HAVO/VWO upper secondary education (cluster of orange points and trend line) respectively special (VSO), practical (PRO) and learning support (LWOO) education (cluster of blue points and trend line) among 15-year-olds with a second-generation immigration background, broken down into 41 regions of origin. The dotted lines are trend lines (regression lines). Source: our own calculation based on Statistics Netherlands microdata.

The striking similarities in the colour patterns between the three world maps in Figure 9.14 with regard to the Cito scores (top), participation in HAVO/VWO upper secondary education (middle) and participation in special needs education (bottom) of the second generation visually illustrate this correlation between Cito scores and school level. Figure 9.15 further substantiates the correlation between the Cito score and the participation in the different types of education. It can be seen that the average Cito score of the second generation is a very good predictor of participation in HAVO/VWO upper secondary education and also a good predictor of participation in special needs education (special education, practical education and learning support education). For the second generation, each point higher in the Cito score predicts a 4.6% higher participation in HAVO/VWO and a 2.4% lower participation in special needs education. Finally, from Figure 9.15 it can be concluded that for the three regions with the lowest Cito score – Turkey, Morocco and the Caribbean – participation in HAVO/VWO upper secondary education was lower in 2016 than participation in special needs education.

9.7 Group differences in Cito scores and education level by immigration motives

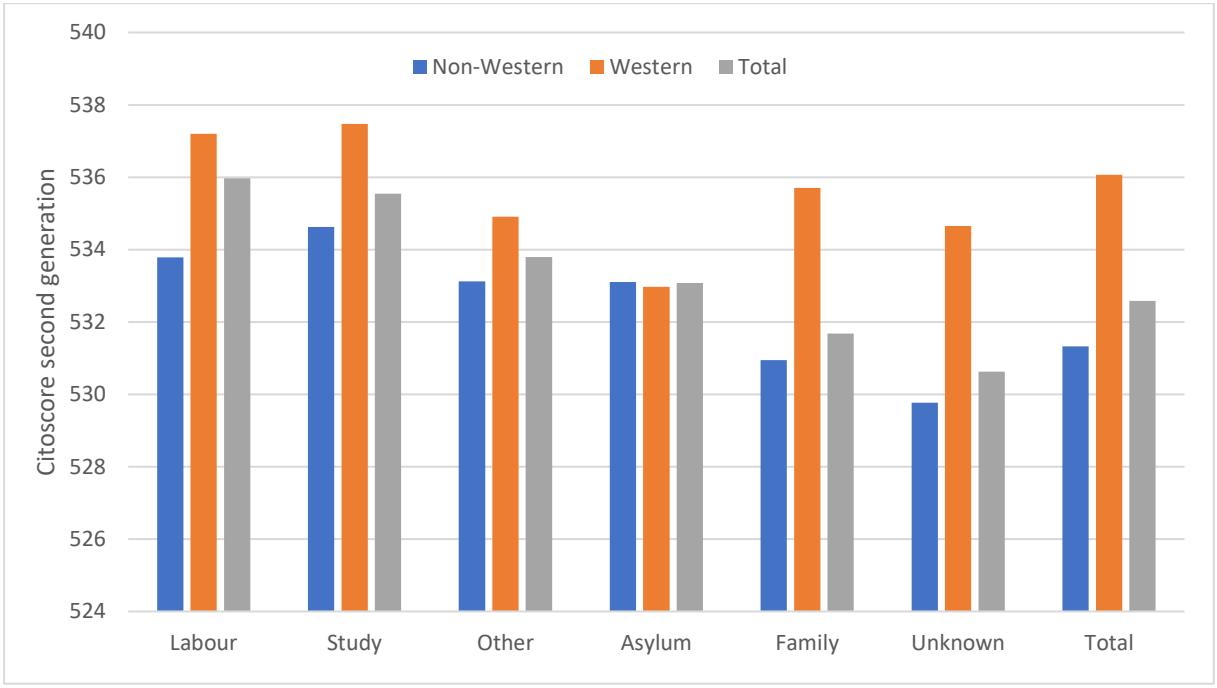
With a view to the admission policy, differences in Cito scores and education level between the immigration motives are also policy-relevant. The Cito score provides an indication of the degree of selectivity with regard to education level (and education potential[345]). Selection is interpreted broadly in this chapter: it concerns (i) selection with regard to education level as an (un)intended effect of government admission criteria, (ii) explicit selection at education level by private parties such as employers and universities and (iii) 'self-selection' of immigrants for education level.

Because (by the nature of the matter) there are hardly any Cito scores for first-generation labour and study immigrants, the second-generation Cito scores have been used. The second generation is by definition born in the Netherlands and has no immigration motive itself. The second-generation immigration motive is therefore derived from that of the first generation (see the Technical Appendix). Table 9.3 also shows the values for the first generation, if available. If we take the Cito scores as a measure of the selectivity of the admission policy with regard to the education level of the immigrants and the educational potential of their children, the following picture emerges (see Table 9.3 and Figure 9.16 above). It can be seen that the Cito scores are highest for the motives labour (536.0) and study (535.5). These are values close to the average for native Dutch people (535.9). Study and labour immigration are probably mostly selective with regard to human capital, including the level of education. In the case of study immigration, there will usually be minimum entry requirements with regard to (preliminary) education. In the case of labour immigration, too, employers will regularly be subject to selection based on education level.

Table 9.3 Cito scores by immigration motive and first and second-generation immigration background, 2006-2018. Source: our own calculation based on Statistics Netherlands microdata.

	Immigration background								
	Non-Western			Western			Total		
	M	*(SD)*	*N*	*M*	*(SD)*	*N*	*M*	*(SD)*	*N*
Native Dutch							535,9	(9,6)	1.393.678
Second generation									
Labour	533,8	(10,6)	5.022	537,2	(9,4)	8.960	536,0	(10)	13.982
Study	534,6	(10,2)	4.396	537,5	(9,5)	2.074	535,5	(10,1)	6.470
Asylum	533,1	(9,9)	6.910	533,0	(10,3)	1.570	533,1	(9,9)	8.480
Family	530,9	(10,5)	62.825	535,7	(9,9)	11.488	531,7	(10,6)	74.313
Other	533,1	(10,2)	6.676	534,9	(9,9)	4.023	533,8	(10,1)	10.699
Unknown	529,8	(10,7)	27.881	534,7	(10,3)	5.980	530,6	(10,8)	33.861
First generation									
Labour	–	–	–	–	–	–	–	–	–
Study	–	–	–	–	–	–	529,9	(11,7)	25
Asylum	530,7	(10,5)	3.468	530,9	(10,8)	624	530,7	(10,6)	4.092
Family	529,5	(10,9)	10.326	533,0	(10,8)	9.076	531,1	(11)	19.402
Other	531,4	(10,4)	2.097	531,5	(10,3)	1.928	531,5	(10,4)	4.025
Unknown	–	–	–	–	–	–	533,3	(8,8)	15

[345] For countries of origin with a low level of education, it might be better to speak of 'educational potential', after all, a low level of education certainly does not always mean that one does not have the potential to achieve a high level of education, such as the case of people with a Chinese immigration background shows: the first generation (cohorts up to 2000) were often low-skilled and the second generation has above-average school success. Gijsberts, M., W. Huijnk & R. Vogels (eds.) (2011), pg. 23 and 54



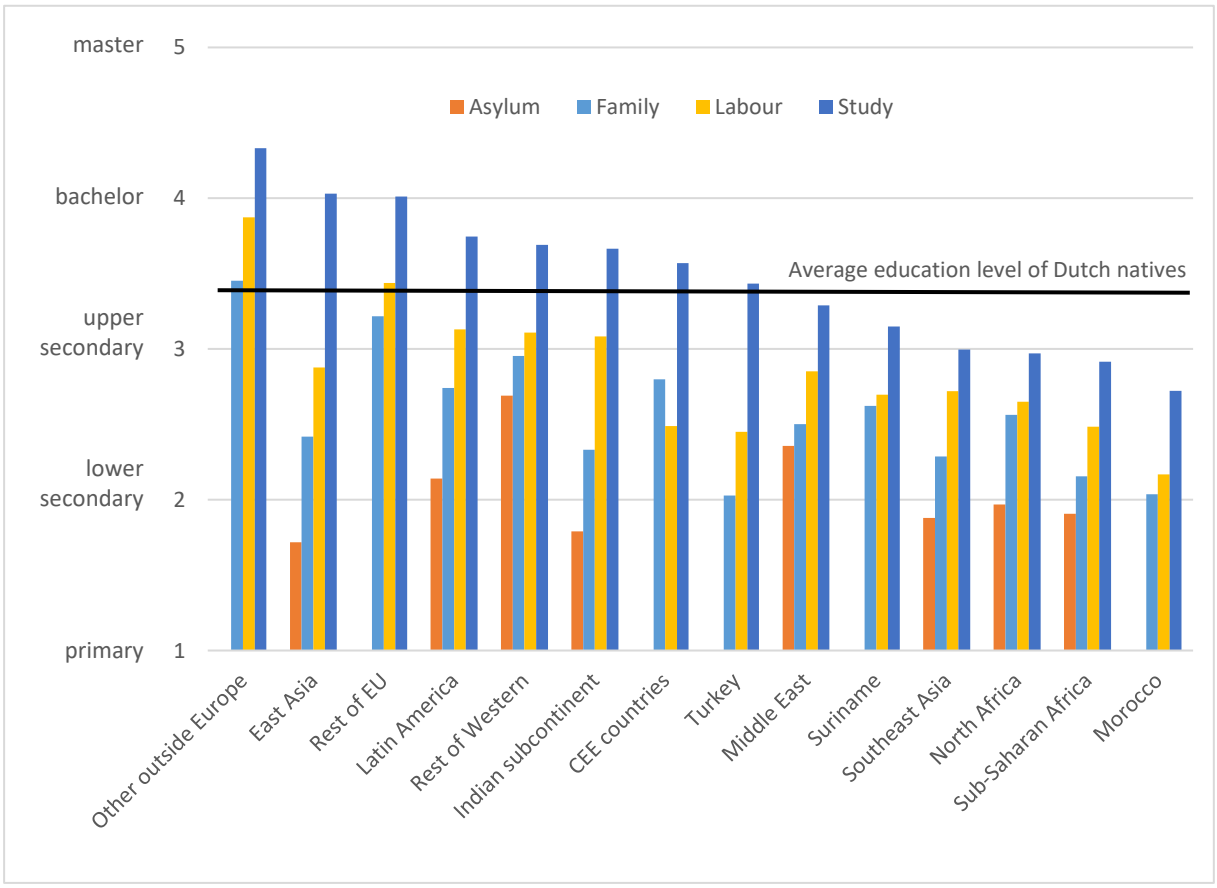


Figure 9.16 Cito scores of individuals with a second-generation immigration background, broken down by immigration motive (derived from the immigration motive of the parents) and origin group, 2006-2018 (above). Average education level according to the Statistics Netherlands SEC 5-part distribution of people with a first-generation immigration background, broken down by immigration motive, 2016 (below). Source: our own calculation based on Statistics Netherlands microdata.

Labour immigration does not always involve positive selection based on education level, as the example of the guest workers shows. With the guest workers, labour immigrants were sometimes actively recruited on the basis of being low-skilled. The current intra-EU labour immigration is free and therefore not necessarily positively selected on the basis of education level. This is apparent, for example, from the large number of labour immigrants from Central and Eastern European countries involved in unskilled (seasonal) work and the low average education level of, among others, Polish immigrants. As will be explained shortly, labour immigrants from CEE countries (certainly for Western immigrants) are on average relatively low-skilled.

For family immigration – whose average Cito score is relatively low at 531.7 – there is much less selectivity. After all, the level of education is not a direct criterion for family formation and family reunification. However, some indirect selectivity at education level cannot be ruled out, for example due to the Civic Integration Abroad Act (*Wet inburgering in het buitenland)* and due to the income requirements (income is related to education level) that are imposed on the receiving partner during family formation (see also §2.3).

For the asylum motive, the average Cito score of 533.1 lies between the study and family immigration motives. There is no unequivocal (self-)selection mechanism for asylum. In some cases, asylum involves elite immigration, in other cases the immigration is more differentiated. One could argue, however, that asylum immigration is often so expensive and difficult that a certain self-selection could occur with regard to financial resources, inventiveness and perseverance. However, this requires further research.

The scores for unknown immigration motive are the lowest at 530.6. This usually concerns people who do not have to state an immigration motive, for example because they have Dutch nationality. This low score can partly be explained as a composition effect. In the period 1999-2016, 31%[346] of the people with an immigration background who did not have to give a reason for immigration had an immigration background in the four 'classic' non-Western regions of origin Morocco, Turkey, Suriname and Aruba and the (former) Netherlands Antilles, for which second-generation Cito scores are relatively low (between 527.4 and 529.7).

In addition to the large empirical differences in Cito scores that exist between the various immigration motives, the large difference in Cito scores between Western and non-Western second generation is also striking. Only in the case of asylum is there is no appreciable difference, for all other motives the difference between Western and non-Western is one to five Cito points. Second-generation Western family immigrants score an average of 535.7, close to the native average of 535.9. Second-generation non-Western family immigrants score 530.1 on average, which is significantly lower (the difference is half a standard deviation). More generally, it is striking that only Western study and labour immigrants score above the native Dutch average, all other groups have lower Cito scores.

Based on the Cito score, with regard to the Western/non-Western classification, only Western study and labour immigration is selective with regard to the educational potential of immigrant children. In all other forms of immigration, the second generation's Cito score is lower than that of native Dutch

[346] Our own calculation based on Statistics Netherlands StatLine *Immigranten; migratiereden, sociaaleconomische categorie, 1999-2016,* retrieved 31-12-2020 from: https://opendata.cbs.nl/statline/#/CBS/nl/dataset/84140NED/table?dl=54D4A

people. Group differences in Cito scores affect the entire life course of the groups involved. The Cito scores are an indicator of performance in primary school and determine the school advice for secondary education. Cito scores are also a good predictor of further school performance and the ultimate highest education attained, and thus also for the net contribution over the life course. The differences observed here illustrate the potential effect of (self-)selection for education level on integration probabilities and public finances.

A warning is in order with all this. Due to the broad categories of Western and non-Western composition effects will play a major role. For example, the low average Cito score of non-Western family immigrants can be traced to a significant extent to family immigration from countries of origin such as Turkey and Morocco, where, as mentioned, selection on the basis of low-skilled recruitment often took place and the Cito scores are low on average.

Finally, we also look directly at the education level of the first generation. As stated earlier (§9.5), education levels between countries are not always readily comparable. That is why the rest of this section makes comparisons as much as possible within more or less similar regions of origin.

The Netherlands is not good at attracting highly skilled immigrants. Figure 9.16 (below) shows the education level for a division of the world into 14 regions. These regions are arranged in descending order of the education level of study immigrants. As will be shown in the next section, immigration only yields a positive balance for the treasury if immigrants have at least a bachelor's or equivalent skills. If we take as a standard that immigrants should have, on average, a bachelor's degree, only the region Other outside Europe (North America, Oceania and Japan) more than meets this standard. Study migrants from the regions Other EU (the EU excluding the CEE countries) and East Asia (excluding Japan) just barely earn the designation 'highly educated'. Study migrants from the other regions are (much) less educated. Study migrants from Africa (including Morocco) have the lowest average level of education: only a third of them have at least a bachelor's degree. No region can be called 'highly skilled' for labour migrants, although the region Other outside Europe comes close. Family immigrants – non-Western family immigrants in particular – are generally low-skilled. Within each region, asylum immigrants are by far the least educated. In general, the differences in education levels between groups of first generation immigrants are very large.[347] ↲

Figure 9.16 (below) also shows the average education level of natives (3.37). Amongst labour migrants, only immigrants from the region Other outside Europe (North America, Oceania and Japan) have an education level that is clearly higher than the average for natives. This is also the only group for which family migrants have a higher average level of education than natives.

Immigrant workers from the Other EU region – the EU countries minus the Central and Eastern European (CEE) countries – have an average level of education that is slightly higher than that of the native Dutch, while family migrants from these Western EU countries are just below.

All other labour immigrants have a relatively low average education level compared to native Dutch people. In particular, the education level of labour immigrants from CEE countries is low.[348] Moreover,

[347] The difference between the group with the highest level of education and the group with the lowest level of education is approximately 4 standard deviations for both the division into combination of region of origin and motive and the 87-part division into regions of origin.
[348] About 1.5 standard deviations lower than the labour immigrants from the Other Western region.

this is the only region of origin distinguished here in which labour immigrants are less educated than family immigrants. This underlines the point made earlier that the freedom of labour within the EU makes it possible that labour immigration is not necessarily positively (self-)selected with regard to education level.

Asylum immigrants are on average very poorly educated. For all regions of origin for which sufficient data is available, asylum immigrants are (by far) the least educated, less of course than study and labour immigrants, but also less than family immigrants.[349] A possible explanation for this is that asylum immigrants are mainly those who are not eligible for immigration through the family channel and who are also under-educated for immigration through the study and labour channels, although this needs further investigation. This means that immigrants from typical asylum countries are often poorly educated. Among the six countries with the lowest average level of education in the 87-part division into regions of origin – Eritrea, Somalia, Ghana, Syria, Turkey and Sri Lanka – are four typical 'asylum countries'. Even the Iranian immigrants, often described as 'elite immigrants', have an average education level that is about 10% lower than that of native Dutch people.

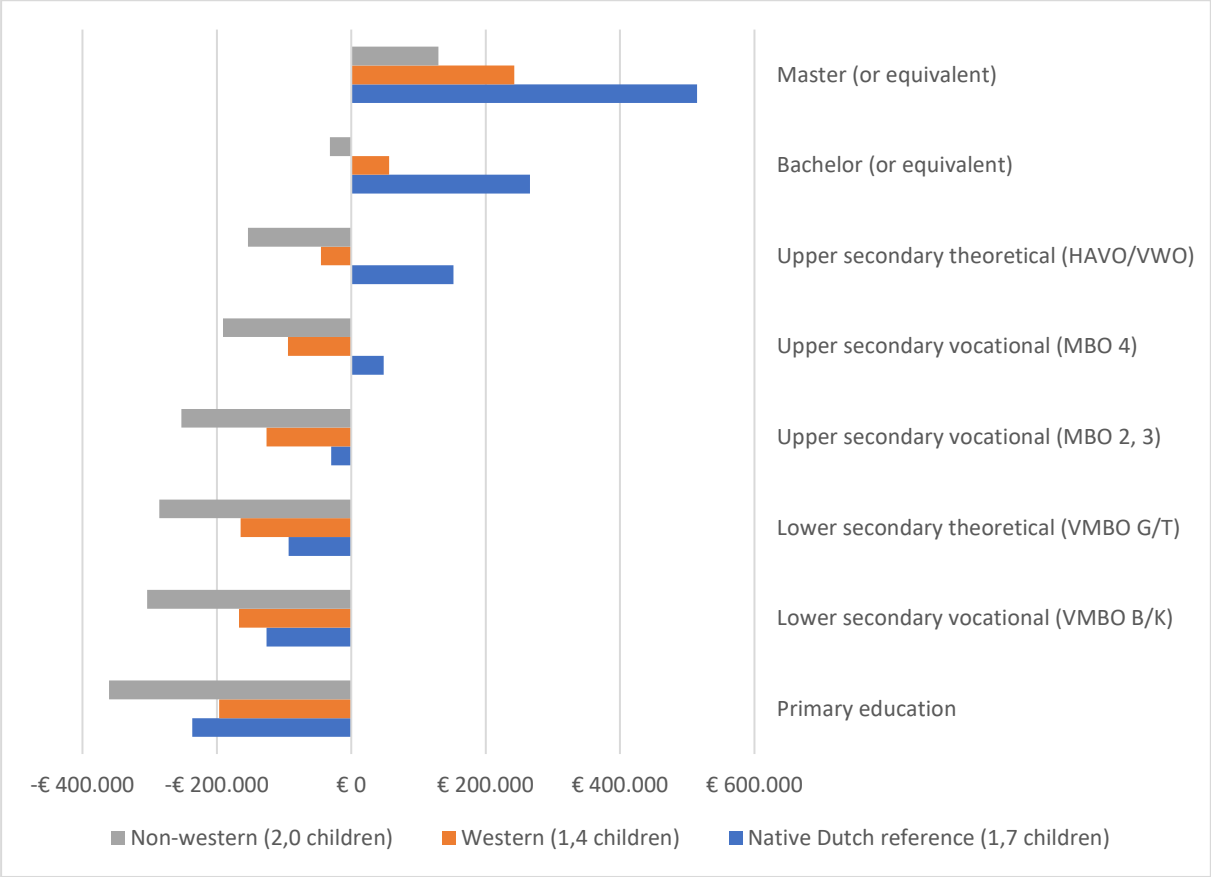


Figure 9.17 Net contribution by education level and immigration background, total for first and second generation, taking into account remigration and the number of children per woman. Source: our own calculation based on Statistics Netherlands microdata.

[349] Almost all Western asylum immigrants come from the Rest of Europe region; there is too little data for the other Western regions. The number of asylum immigrants is also too low for Turkey, Morocco and Suriname for a separate calculation; however, the average education level for these three countries together has been set at 2.25.

9.8 Net contribution by education and immigration background

This section examines the extent to which there are differences in the net contribution of Western and non-Western immigrants with a certain level of education. The results of this calculation are shown in Table 9.4 and in Figure 9.17. As in Chapter 6, the costs and benefits of the first and second generations have been added together. Remigration and the number of children of the first generation have been taken into account. It is also assumed that second generation children up to the age of 18 go with their parents if these parents remigrate and that they stay in the Netherlands permanently from the age of 18. The educational level of the second generation can be the same as that of their parents, but this is usually not the case.[350] The children of immigrants are generally better educated than their parents, especially in groups with a low average level of education. The reference category is again a hypothetical immigrant – referred to as the native Dutch reference[351] – which has the labour market performance of the average native Dutch person and the immigration behaviour and pension accrual of the average immigrant.

From the point of view of the treasury, immigration is only beneficial if the immigrants, on average, have an education at least at bachelor level. This does not mean that only immigrants with a bachelor's or master's degree can be admitted for a positive fiscal balance. It goes without saying that – for example – a welding specialist with a secondary vocational education, who cannot be found on the domestic labour market, can be of great value to a refinery. But in the mix of admitted immigrants, the average education level must be around bachelor level. It speaks for itself that this observation is extremely policy-relevant, certainly if policymakers wish to use selection to aim for a positive balance for the treasury. In that case, selection by education level and other human capital would be an obvious method, one which is also used by classic immigration countries such as Australia, Canada and the US. Comparable research in the US also draws the same conclusion: here too, only immigrants with at least a bachelor's level of education provide the treasury with a positive balance.[352] ↲

Furthermore, Figure 9.17 shows that Western immigrants for all education levels make a higher average net contribution than non-Western immigrants. Moreover, the reference natives make the highest net contribution for almost every education level. The only exception is Western immigrants with primary education as the highest level of education.[353]

Further, Figure 9.17 shows that the difference in net contribution between native Dutch people and, in particular, non-Western immigrants is very large. Table 9.4 (columns 2 and 4) shows that for the highest levels of education, the difference rises to over €300,000 for the first generation. The differences for the second generation are generally smaller, up to around €60,000.

[350] See the Technical Appendix for the calculation of the distribution of education levels of the second generation for a given education level of the first generation.
[351] See the Glossary and the Technical Appendix.
[352] National Academies of Sciences, Engineering, and Medicine. (2017), pg. 346, in particular the table *Benefits include defense, subsidies, rest-of-world payments, and interest payments*
[353] A possible explanation for this latter phenomenon is that, due to compulsory education, few people in the Netherlands have had at most primary education for a long time. The Dutch who do have primary education as their highest level of education are therefore expected to have a low earning capacity on average, while EU labour immigrants employed in the Netherlands with at most primary education form a selection of people with proven earning capacity and labour productivity.

Table 9.4 Net contribution by education level and immigration background, observations and an adjusted calculation. Source: our own calculation based on Statistics Netherlands microdata.

Education level[2]	Dutch Native reference[1][4]	Western (1,7 children)[4]	Non-Western (1,7 children)[4]	Western (1,4 children)	Non-Western (2,0 children)
Primary education					
First generation	-199	-156	-260	-156	-260
Second generation[3]	-37	-49	-85	-40	-100
Total	-236	-205	-345	-197	-360
Lower secondary vocational (VMBO B/K)					
First generation	-104	-136	-217	-136	-217
Second generation[3]	-22	-38	-74	-31	-87
Total	-126	-174	-291	-167	-304
Lower secondary theoretical (VMBO G/T)					
First generation	-81	-138	-209	-138	-209
Second generation[3]	-12	-32	-65	-26	-76
Total	-93	-170	-274	-164	-286
Upper secondary vocational (MBO 2, 3)					
First generation	-29	-105	-180	-105	-180
Second generation[3]	-1	-25	-62	-21	-73
Total	-30	-130	-242	-126	-253
Upper secondary vocational (MBO 4)					
First generation	42	-78	-130	-78	-130
Second generation[3]	6	-20	-52	-16	-61
Total	48	-98	-182	-94	-191
Upper secondary theoretical (HAVO/VWO)					
First generation	137	-36	-99	-36	-99
Second generation[3]	15	-11	-47	-9	-55
Total	152	-47	-146	-45	-154
Bachelor (or equivalent)					
First generation	241	55	11	55	11
Second generation[3]	25	2	-36	2	-42
Total	266	57	-25	56	-32
Master (or equivalent)					
First generation	484	232	158	232	158
Second generation[3]	31	13	-24	11	-28
Total	515	245	134	243	130

[1]The Native Dutch reference with education *S* has number of children and costs and benefits of the average native with education *S*, but mobility behaviour (presence/absence in the Netherlands) and pension conditions (pension accrual, state pension and use of social assistance from the age of 65) of the average immigrant. The fact that the income of the average native is higher than that of the average immigrant is taken into account for the pension accrual. [2]The education level in bold refers to the 1st generation. For the 2nd generation, the average educational attainment was estimated using the observed distribution of educational attainment in the SEC 8-part division for 1st and 2nd generation immigrants and observations regarding the correlation between the educational attainment of the 1st and 2nd generation at the region level in the 42-division (minus the Netherlands). [3]This concerns the costs for the 2nd generation, per 1st generation immigrant, weighted by the number of children and remigration probability of the 1st generation (2nd generation children go with their parents until the age of 18 in case of remigration). NB: This does not concern the costs for one person of the 2nd generation. The number of children (1.7 for native Dutch, 1.4 for Western and 2.0 for non-Western) is derived from CBS-statline, *Births; fertility, migration background and generation mother*, retrieved 8-8-2022 from: https://opendata.cbs.nl/#/CBS/nl/dataset/83307NED/table?dl=6CA04 [4]An earlier version of the first four columns of this table appeared in TPEdigitaal: Roodenburg, H., Kreffer, G., Van de Beek, J. H., and Hartog, J. (2022) Immigration and the welfare state*, TPEdigitaal 16(3)*, 1-11. For further details, see the Glossary and the Technical Appendix.

Most of the difference with the native Dutch people is in the net contribution for the first generation. An important explanation here is that human capital such as work experience and diplomas are often much less valuable in the eyes of employers in the host country than in the country of origin, while work experience and diplomas acquired by immigrants in the host country are often valued.[354]

9.9 Net contribution by Cito score and immigration background

In §9.4 the net contribution per Cito point was presented for the population as a whole (see Figure 9.9). In Figure 9.18 right the same was done for native Dutch people and people with a Western and non-Western second-generation immigration background separately. The profiles in Figure 9.18 right were created by combining the data on the Cito return and the educational return for each year of life. As a reminder: the Cito return is the distribution over the different education levels for a certain Cito score and the education return is the net contribution for a specific education level (see §9.1 and the Technical Appendix). Figure 9.18 left shows that the differences in Cito return lead to small group differences in the average education level per Cito score. Only for the (less frequent) lower Cito scores, the average education level of second generation non-Western migrants is considerably higher than for natives. Hence, the large differences in net contribution between the second generation and natives in Figure 9.18 right do not arise so much in the school system, but mainly on the labour market, a theme that will be explored further in §9.12.

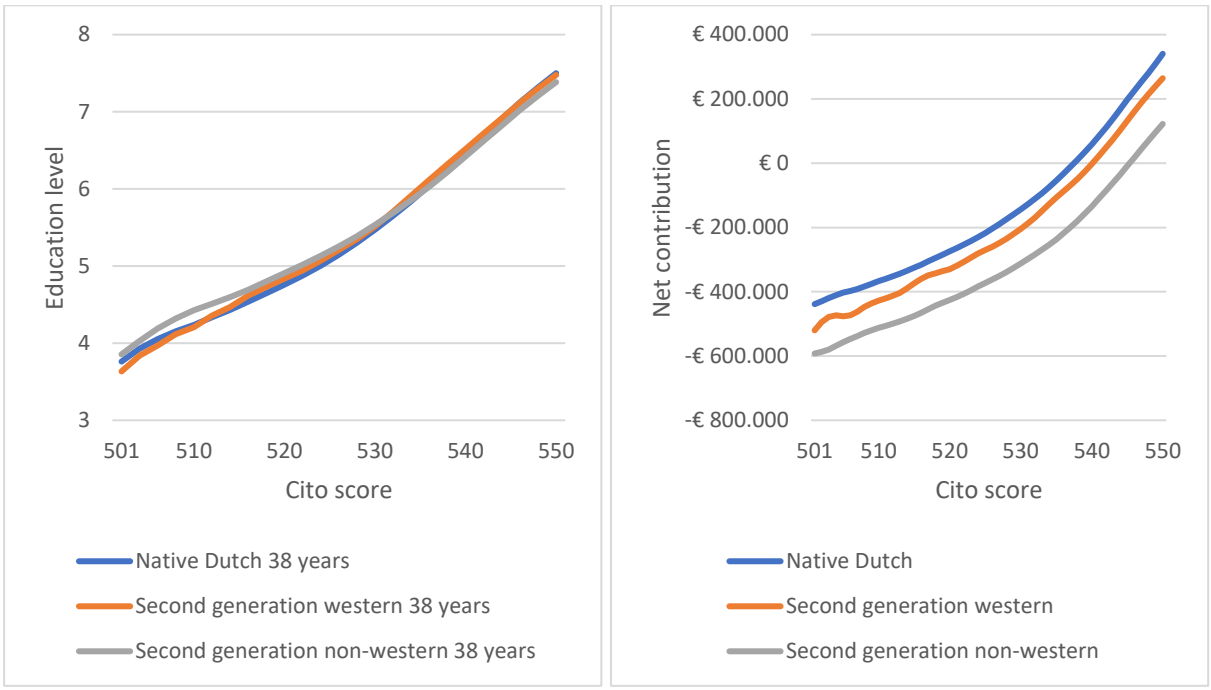


Figure 9.18 Average level of education (weighted according to the SEC 8-part division of Statistics Netherlands) by Cito score for native Dutch people and people with a second-generation Western or non-Western immigration background, 38 years old (smoothed, synthetic) (left). Net contribution over the life course by Cito score for native Dutch people and people with a second-generation Western or non-Western immigration background (smoothed, synthetic). The results have been calibrated to the net contribution by Cito score of the average Dutch resident (i.e. total of all migration backgrounds) (right). See Technical Appendix for details. Source: our own calculation based on Statistics Netherlands microdata.

[354] This explanation is also known from the economic literature, for a discussion see Van de Beek, J. H. (2010) pg. 94

Figure 9.18 right shows that for native Dutch people there is a difference of almost €800,000 between the net contribution of people with the highest and those with the lowest Cito score. Each Cito point higher yields a higher net contribution, with the increase being greater for the higher Cito scores. On average, the increase per Cito point higher is €21,000 for native Dutch people and second-generation Westerners and €16,000 for second-generation non-Westerners.[355] In addition, the large difference between the different origin groups is noticeable in Figure 9.18 right. The net contribution of the second generation is much lower than that of native Dutch people. The difference between Western immigrants and native Dutch people (on average approximately €60,000 lower) is much smaller than the difference between non-Western immigrants and native Dutch people (on average approximately €170,000 lower).[356]

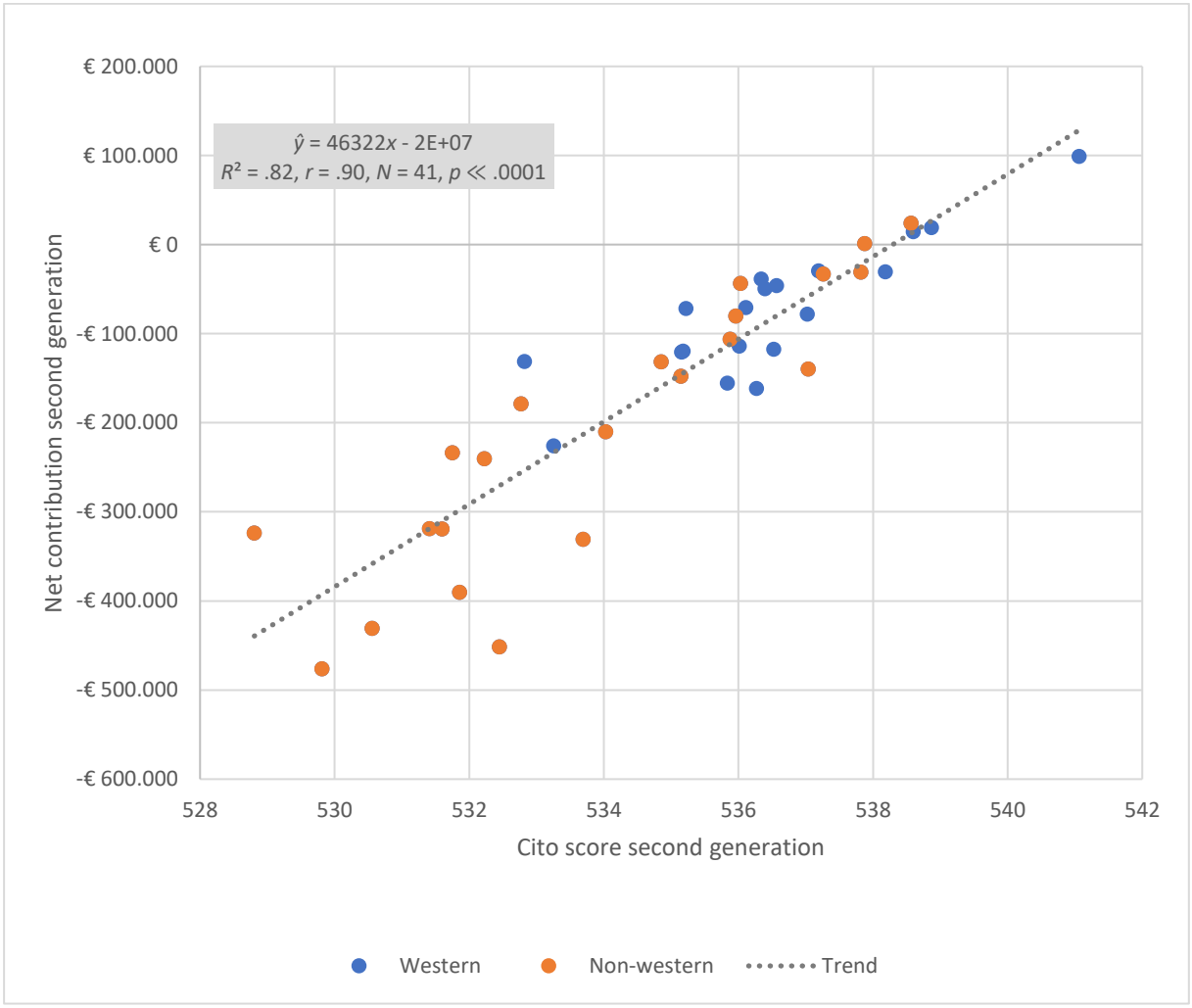


Figure 9.19 Average net contribution (excluding emigration) by average Cito score, of people with a second-generation immigration background, for 41 regions of origin. The dotted line is a trend line (regression line). Source: our own calculation based on Statistics Netherlands microdata.

[355] This concerns the weighted average of the differences in net contribution for successive Cito scores. The increase is lower for second generation non-Western background, due to overrepresentation in the lower Cito scores. For details, see the Technical Appendix.

[356] This is the unweighted average of the differences in net contribution per Cito score between native Dutch on the one hand and second generation Western and non-Western on the other, so in fact the average distance between the relevant lines in Figure 9.18 on the right. For details, see the Technical Appendix.

For second-generation origin groups, a one point higher average Cito score is associated with an extra €46,000 net contribution, of which €18,000 to €19,000 can be traced directly to the Cito score itself and the rest to differences in labour market performance.[357] In Figure 9.18 right, lumping together the broad categories Western and Non-Western somewhat masks the group differences within each category. Particularly within the non-Western category, the differences in second generation Cito scores are large, with the lowest value being 529 (Turkey) and the highest value being 539 (China).[358] The net contributions also differ widely within non-Western countries. In addition, in Figure 9.18 right the effect of Cito score is separated from the effect of immigration background – by calculating per group separately. In Figure 9.19 there is no such separation, but the average net contribution of second-generation groups[359] in the 42-part division (minus the Netherlands) is compared with the average Cito score of each group. The grey regression line explains 82% of the variance in net contribution, which is a lot.[360] On average, each point higher Cito score is associated with a €46,000 higher predicted net contribution. About 40% of this can be traced back directly to the Cito score itself and the rest to other factors, apparently related to an immigration background, which will be shown later (§9.12) to be mainly related to labour market performance. In another way, this underlines once again that the Cito score and immigration background of immigrant groups are hugely determinative for the effect of immigration on the treasury. ↲

9.10 Strong correlation in Cito scores between successive generations

Differences in Cito score between origin groups in the first generation carry over into the following generations. There is a strong correlation between the average Cito scores of first and second-generation immigrants. This is shown in Figure 9.20 for the 42-part division (minus the Netherlands). Each blue dot represents one region. The dotted trend line (regression line) shows the direction of the relationship.

The solid grey line marks the boundary between progress or decline of the second generation compared to the first generation. For regions that roughly fall on the grey line, the first and second generations do about equally well in terms of Cito scores. Four regions are clearly below the grey line. For those regions, the second generation Cito score is therefore below the first generation Cito score. However, these are all groups of which the first generation had a higher Cito score than native Dutch people (536). In groups with a very high Cito score for the first generation, there may be a downward adjustment in the second generation towards the average for native Dutch people.

[357] For details, see the Technical Appendix.
[358] With a standard deviation of 9.9 measured over the entire population, that is about one standard deviation.
[359] The net contribution for the second generation is based on direct observation for the first 48 years of age and on a combination of observation (if available) and extrapolation for the other age years. The regression of the sum of the net contributions over the first 48 years of age on the Cito score has an explained variance of 79%. The extrapolation to the other age years uses (among other things) the correlation found between Cito score and net contribution over the first 48 age years. For details, see the Technical Appendix.
[360] There is a strong correlation between Cito score and net contribution, both for native Dutch people and the second-generation immigrants. This is in any case true for the first half of life (up to 48 years, see Technical Appendix) for which raw data is available for the second generation. However, the net contribution for the second half of life has been estimated on the basis of data for the first half of life. Four alternative methods were applied, which were averaged to arrive at the final integration percentage. Two methods are calibrated against the Cito score, two methods are not. All methods provide an integration measure that is very closely related to the Cito score. The correlation found here is therefore not an artefact of the method used to determine the integration percentage for the second generation.

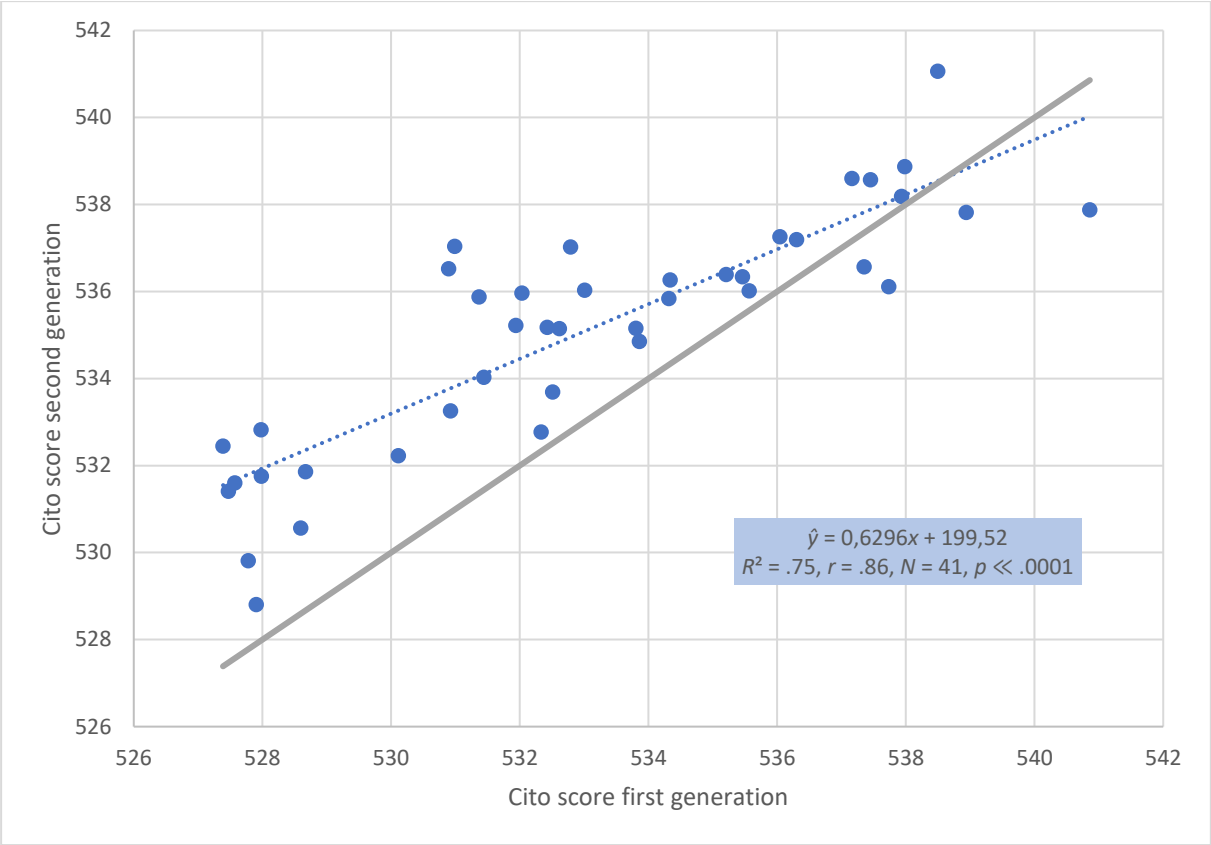


Figure 9.20 Correlation between average Cito scores (2006-2018) of people with a first and second-generation immigration background, broken down into 41 regions of origin. The dotted line is a trend line (regression line); the solid grey line indicates the groups for which the second generation scores on average higher (above the grey line) or lower (below the grey line) than the first generation. Source: our own calculation based on Statistics Netherlands microdata.

For all other groups, the second generation Cito score is higher than the first generation Cito score (the dots are above the grey line). The average Cito score for the second generation is therefore slightly higher at 532.6 than the average Cito score for the first generation, which is 531.9.[361] However, the difference between the first and second generations is not the same for all groups. Looking at the dotted trendline (regression line) in Figure 9.20, we see that the predicted increase for groups with an average Cito score of 528 is four points (the predicted value is 532). However, for groups with a mean Cito score of 538, the increase is 0 (the predicted value is also 538). In other words, the lower the Cito score for the first generation, the greater the 'catching up' by the second generation.

To investigate the extent to which educational disadvantages decrease across the generations, it is also useful to look at the third generation. The third generation is a person with a Dutch background who has at least one parent with a second-generation immigration background[362]. The mean Cito scores of the second and third generation are also strongly correlated for the 42-part division (Figure 9.21 right). A less strong, but still significant correlation applies to the first and third generation Cito scores (Figure 9.21 left).

[361] More precisely: first generation: *M* = 531.9, *SD* = 10.9, *N* = 43,950, second generation: *M* = 532.6, *SD* = 10.6, *N* = 334,199.
[362] For more details, see the Technical Appendix.

In these graphs too, the solid grey line again marks the boundary between progress or decline between successive generations. It is clear that the lower Cito scores (up to approximately the Dutch average of 535) almost always show an increase compared to the previous generation (see horizontal axis in the figure). The higher Cito scores often show a decrease compared to the previous generation. At the group level, therefore, there seems to be a tendency towards the Dutch average in successive generations.

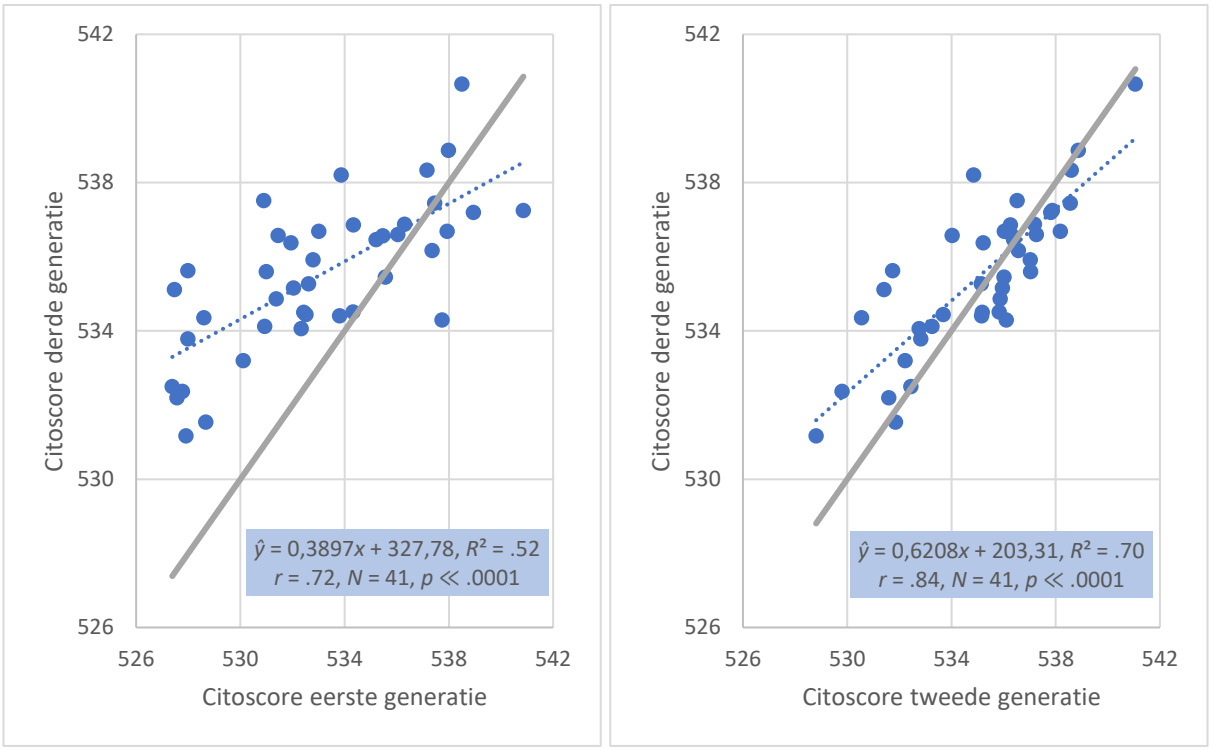


Figure 9.21 Correlation between the average Cito scores (2006-2018) of the first (left) and second (right) generation with the average Cito scores (2006-2018) of the third generation, for 41 origin regions. The dotted lines are trend lines (regression lines). The solid grey line indicates the groups for which the third generation scores higher (above the grey line) or lower (below the grey line) on average than the first generation (left) or second generation (right). Source: our own calculation based on Statistics Netherlands microdata.

Cito scores of successive generations are strongly related. On average, there is progress with each generation and the differences with the native Dutch people become smaller. However, with very low Cito scores, differences sometimes appear to be persistent: in the five first-generation groups with the lowest Cito score, even in the third generation, on average, less than half of the differences have been 'made up'. The connection between the first and second generations should not be a great surprise; after all, in both cases these are children of first-generation immigrants, with the main difference being whether the children were born in the Netherlands or not. However, the correlation in Cito scores between the first and third generations is significant: it shows that the advantage or disadvantage with which the first generation enters Dutch society is passed on to a considerable extent via the second to the third generation. The degree of (self-)selection for the education level of the immigrant – and thus implicitly also on the Cito score of the offspring – therefore has a long-term influence at group level on educational and labour market performance and thus on integration in general. This is a very relevant fact in view of the admission policy.

A warning is in order here, however. All the Cito data comes from the period 2006-2018 and the Cito final test was therefore administered more or less simultaneously in children of all generations. The current third generation in these data is therefore not formed by the grandchildren of the current first generation – they are contemporaries after all – but by the grandchildren of first-generation immigrants who migrated to the Netherlands decades ago. That can lead to apparent changes across generations. For certain groups, for example, the current third generation may consist to a considerable extent of the grandchildren of immigrants from a period when immigration was still mainly elite immigration. In that case, the above graphs may paint too rosy a picture. As more data becomes available, there will be more clarity about the development of Cito scores over the generations. ↲

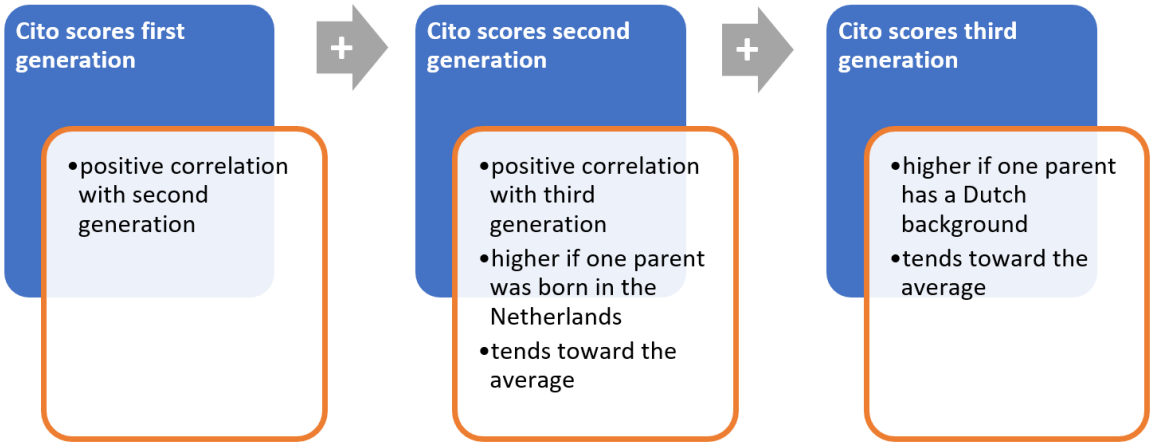


Figure 9.22 Schematic depiction of the correlation in Cito scores between the generations.

The correlation between the Cito scores of successive generations is shown schematically in Figure 9.22. The plus signs symbolize that there is a positive correlation between the generations: low Cito scores for the first generation lead on average to low Cito scores for the second and third generations and high Cito scores are also 'passed on' in a similar way. In addition, the Cito scores tend more towards the average for native Dutch people with each successive generation: above-average Cito scores often become lower and below-average Cito scores usually become higher in the next generation. In addition, the Cito score for people with a second-generation immigration background is higher if one of the parents was born in the Netherlands. Similarly, the Cito score of people with a third-generation immigration background is higher if one of the parents has a Dutch background. Both effects are discussed in the next section.

9.11 Children from mixed relationships usually have a higher Cito score

If the parents of a second-generation child consist of two parents born abroad, the average Cito score is lower than if one parent was born in the Netherlands. This is illustrated in Figure 9.23, where the Cito score is given for 41 regions of origin for children with one and two parents born abroad, respectively.

There are two dots in the figure for each region, an orange dot for children with two foreign-born parents and a blue dot for children with one parent born abroad and one parent born in the Netherlands. For almost all regions, the Cito score of children with one parent born in the Netherlands is significantly higher. The dotted blue trend line through the blue point cloud (one parent born in the Netherlands) is therefore significantly higher than the dotted orange trend line through the orange point cloud (two parents born abroad).

The solid grey line marks progress or decline in Cito score compared to the first generation. If a dot ends up (approximately) on the solid grey line, this means that this group does on average about as well as the first generation in terms of Cito score. If dots fall below this grey line, the group average is lower than that of the first generation. There is then a relative decline. For three groups, the children with one Dutch parent have on average a lower Cito score than the first generation (the three blue dots below the grey line), but these are all three groups whose average Cito score is higher than for native Dutch people (536). Of the groups with two parents born abroad, more than one in three (15 from a total of 41 groups) has a lower Cito score than the first generation (the orange dots below the grey line).

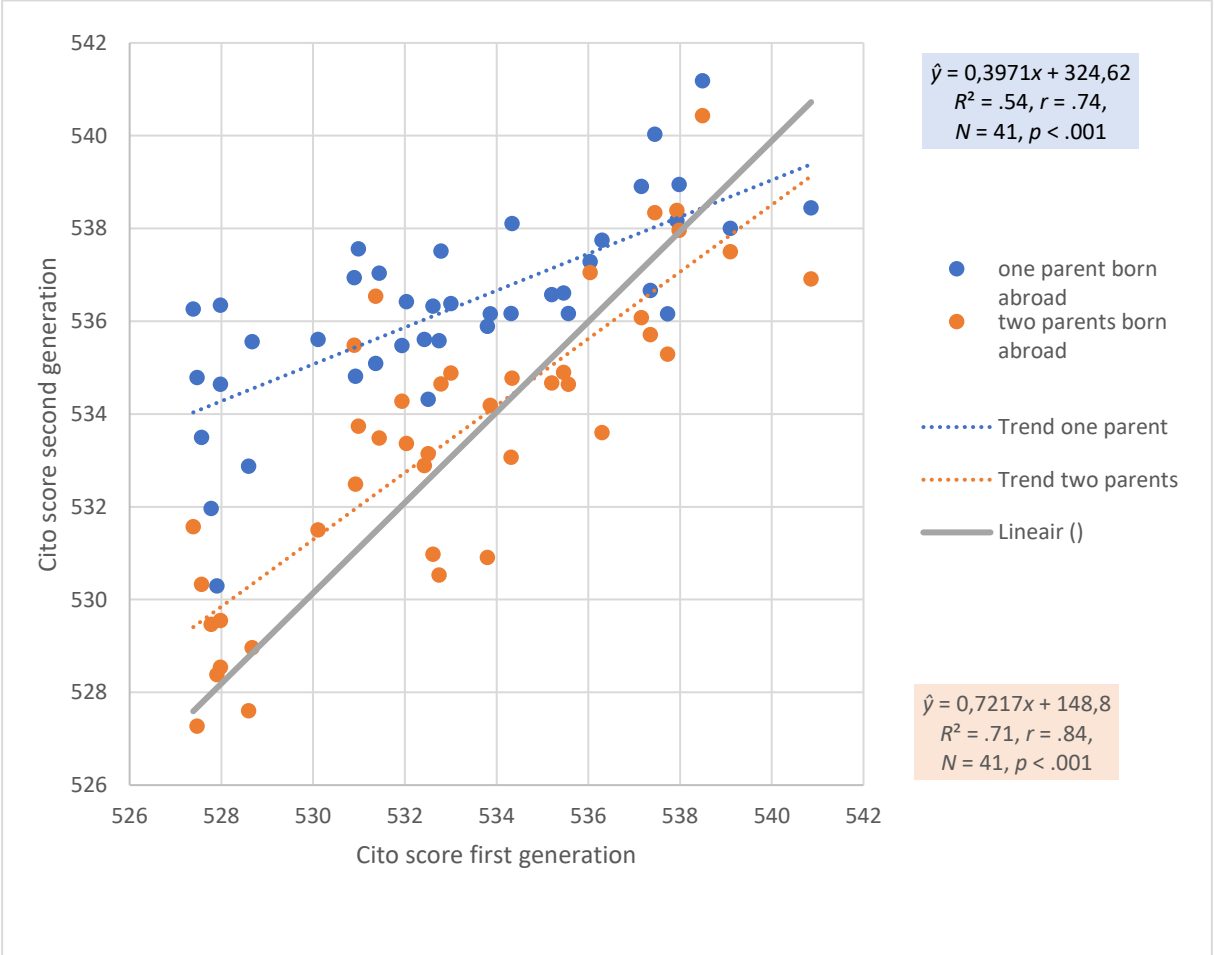


Figure 9.23 Cito scores for people with a second-generation immigration background, broken down by immigration background and the number of parents born abroad. The dotted lines are trend lines (regression lines). The solid grey line indicates the groups for which the second generation has scored on average higher (above the grey line) or lower (below the grey line) than the first generation. Source: our own calculation based on Statistics Netherlands microdata.

The positive effect of a mixed parental couple is strongest for regions of origin with a low Cito score in the first generation. The size of the effect is indicated by the distance between the dotted blue and orange trendline. In a group with an average Cito score of 528 for the first generation, the predicted increase in the mean Cito score is two points for children with two parents born abroad (from 528 to 530) and six points for children with one parent born abroad (from 528 to 534). The difference between one or two parents born abroad is therefore four points, to the disadvantage of the latter group.

In a group with an average Cito score of 540 for the first generation, the predicted decrease in the mean Cito score is two points for children with two parents born abroad (from 540 to 538) and one point for children with one parent born abroad (from 540 to 539). The difference between having one or two parents born abroad is therefore only one point here and, moreover, the predicted scores for the second generation are lower than for the first generation. Apparently, there are advantages for the child of having one parent born in the Netherlands, which decrease the less the average Cito score of the origin group differs from the average Cito score of the native Dutch population.

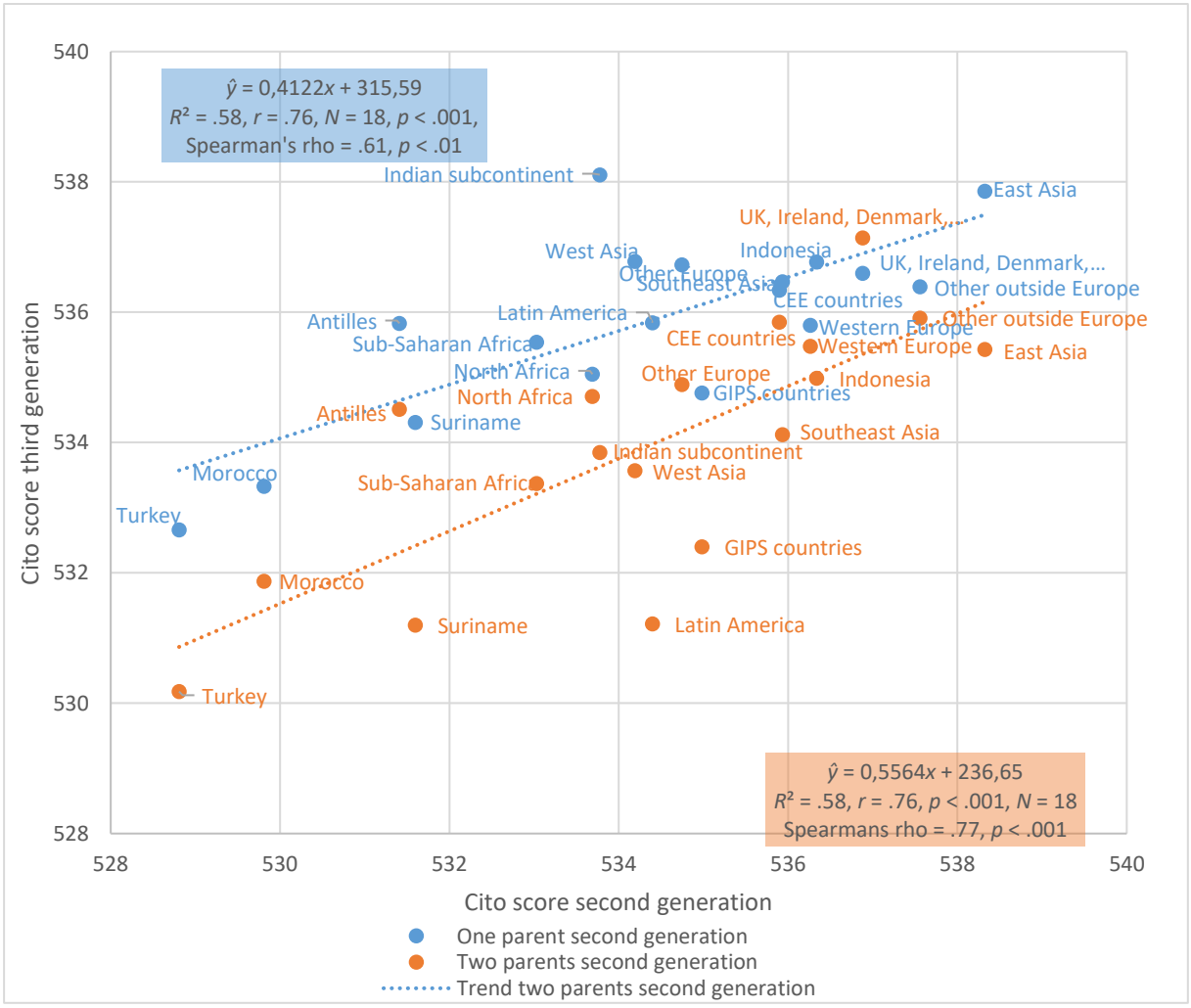


Figure 9.24 Correlation between the Cito scores of people with a second-generation immigration background and people with a third-generation immigration background, with one or two parents with a second-generation immigration background, by origin (18 regions). The dotted lines are trend lines (regression lines). The solid grey line indicates the groups for which the third generation scores on average higher (above the grey line) or lower (below the grey line) than the second generation. Source: our own calculation based on Statistics Netherlands microdata.

The same applies to the third generation as to the second generation. This is illustrated in Figure 9.24. There is a big difference between third generation children of which both parents belong to the second generation (orange dots) and children of which one parent belongs to the second generation and one parent has a Dutch background (blue dots). It can be seen that for most groups the children who have one parent of the second generation have a higher average Cito score than children whose parents both belong to the second generation.

In the third generation, relatively many groups lie below the solid grey line. Those groups have therefore made no progress compared to the second generation. However, many in these groups have a Cito score that is above the average for native Dutch people (536). Thus, there is no disadvantage. Of the seven groups under the grey line with a Cito score lower than 536, six belong to the category 'two parents, second generation'.

The previous observations imply that the average proportion of mixed parent pairs within an origin group influences the school success of second and third-generation children. Figure 9.25 shows that there are also large differences between origin groups in this regard. The proportion of mixed relationships is very high for all Western countries and for Latin America and Eastern and Southern Africa. Turkey, Morocco and the main asylum areas of origin in the Horn of Africa, West Asia and the former Yugoslavia, but also Pakistan, India and China have a low share of mixed relations. The other regions – such as Suriname, Aruba and the rest of the Caribbean, the former Soviet Union, Indochina, the Arabian Peninsula and the unnamed parts of Africa – occupy a middle position with percentages around 50%.

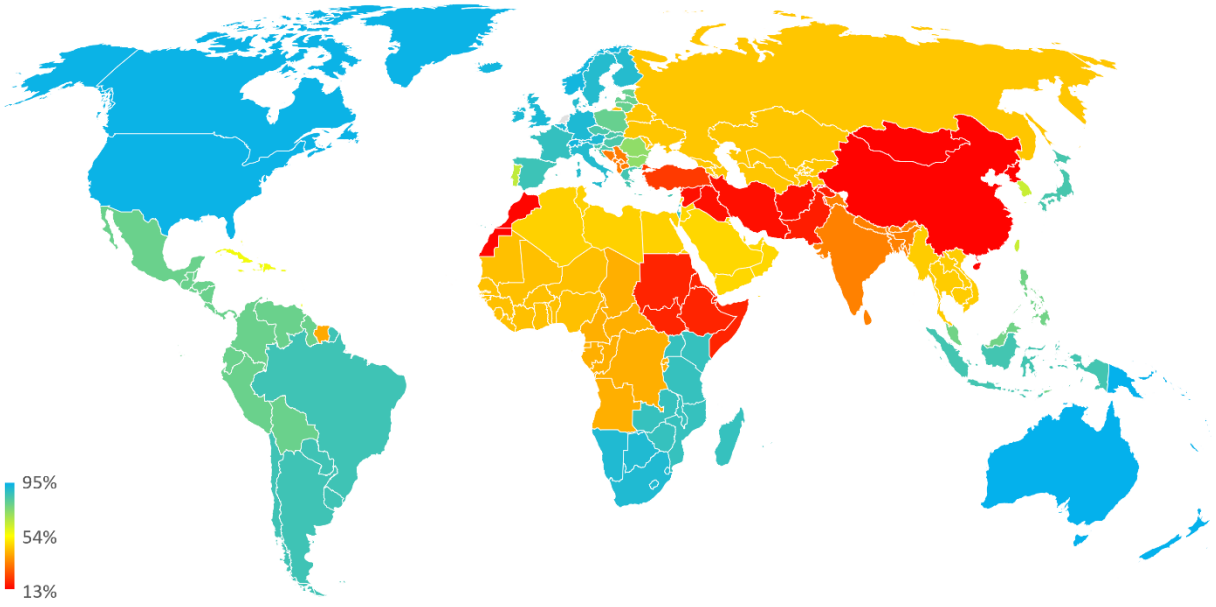


Figure 9.25 Share of children with a second-generation immigration background with one parent born abroad, broken down by region of origin, among participants in the 2006-2018 Cito final test. Source: our own calculation based on Statistics Netherlands microdata.

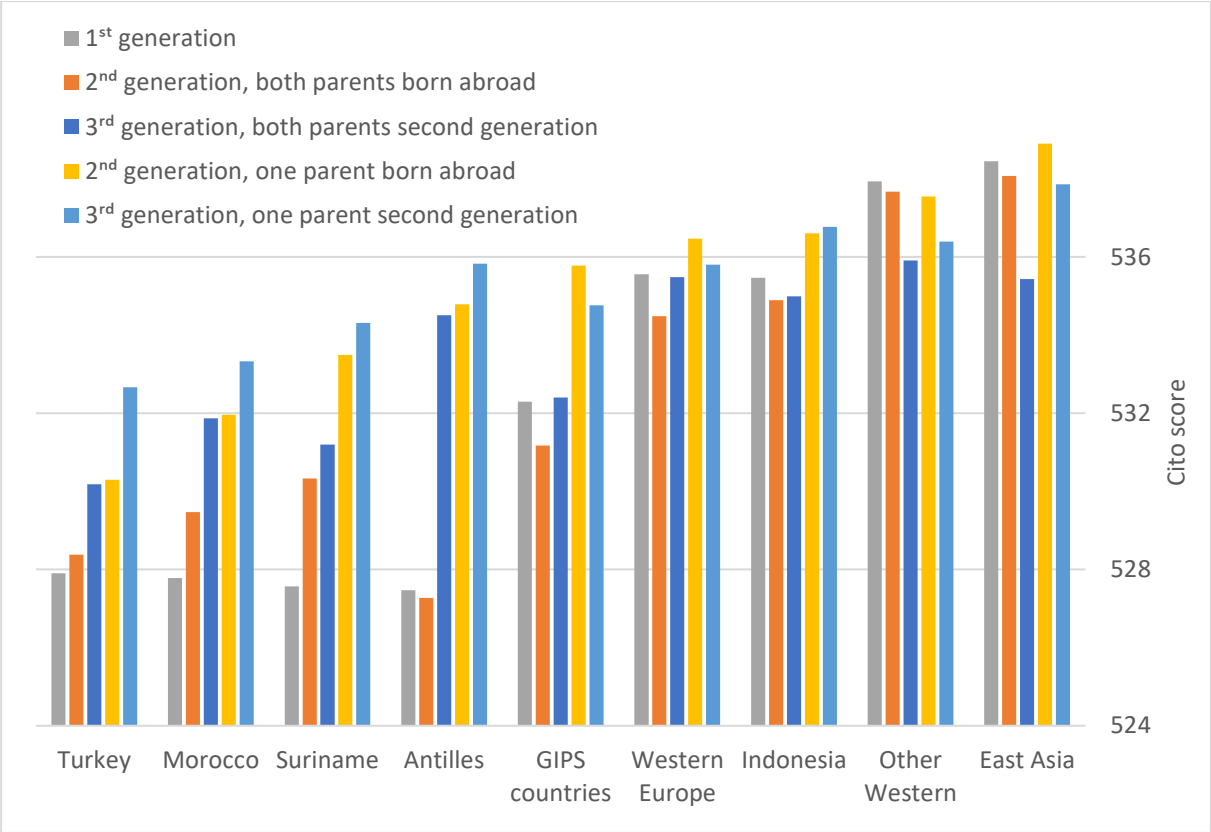


Figure 9.26 Average Cito scores for some regions, broken down by generation. For the 2nd generation, broken down by the number of parents born abroad. For the 3rd generation, broken down by the number of parents of the 2nd generation. Source: our own calculation based on Statistics Netherlands microdata.

Figure 9.26 illustrates the evolution over the generations for a number of groups with a somewhat large third generation. A number of things stand out about this figure. First of all, for all origin groups in this figure, the Cito score of the group '3rd generation, both parents second generation' lower than the Cito score of the group '2nd generation, one parent born abroad'. For the second generation it is also the case that, for a number of origin groups, children with two parents born abroad have on average lower scores than the first generation. It therefore does not automatically improve by generation and the scores partly depend on the proportion of mixed relationships.

It is also striking that for the four large non-Western origin groups – Turkey, Morocco, Suriname and Aruba and the (former) Antilles – there are major differences in the (apparent[363]) development over the generations. These groups all have low mean Cito scores (< 528) for the first generation. If a Cito score of 536 – the average for the native Dutch population – is taken as a yardstick and only the third generation is considered, then only third-generation Antilleans with one parent with a Dutch background can be said to be fully integrated.[364] This is the case at least as far as primary school performance is concerned, but this is very decisive for the ultimate level of education and the net contribution. For the third generation with one Dutch parent, the Cito scores for Antilleans are higher than those of the GIPS countries (Greece, Italy, Portugal and Spain) and comparable to those of the Western Europe region.

[363] See the following footnote.
[364] Except for possible cohort effects, see the warning at the end of §9.10.

Figure 9.26 also shows that in the second generation the difference between the group with one parent born abroad and the group with two parents born abroad is smallest for origin Turkey and largest for origin Aruba and the (former) Antilles. The positive effect of one parent being born in the Netherlands is by far the greatest for Antilleans.

Children of 'mixed parents' usually have a higher Cito score. This positive effect mainly occurs in groups with a low average Cito score. Mixed parents here mean that a child of the second generation has one parent born in the Netherlands and that a child of the third generation has one parent with a Dutch background. Second-generation children with one parent born in the Netherlands have on average a higher Cito score than second-generation children with two parents born abroad. In a comparable manner, third-generation children with one parent with a Dutch background have on average a higher Cito score than third-generation children with two parents with a second-generation immigration background. This applies especially to groups of which the first generation has a low average Cito score; with high Cito scores, a mixed relationship often leads to lower Cito scores in the offspring. ↲

The proportion of mixed relationships within a group therefore partly determines the school and labour market success of the second and third generations. There are very large differences according to immigration background when it comes to the proportion of mixed marriages. Socio-cultural and socio-economic integration go hand in hand in this respect. For example, immigrants from most Western countries, Latin America, East Africa, and Southern Africa tend to enter into mixed relationships. Mixed relationships are relatively scarce among immigrants from China, India, the Middle East and the rest of Africa. Apparently, this makes no difference to immigrants from China because the first generation already has a high Cito score. For immigrants from East Africa, the average Cito score for the first generation is low (531), but the high proportion of mixed marriages coincides with a Cito score that is six points higher for the second generation (537, one point higher than native Dutch people). There are also countries where low first-generation Cito scores coincide with a low propensity to enter into mixed relationships. Examples are Turkey, Morocco and Pakistan. Previous results suggest that for such countries the disadvantage will be relatively persistent, although further research is needed to follow this development properly. ↲

9.12 Admission and labour market are biggest sources of differences, not education

The large differences in net contribution according to immigration background, education and Cito scores that were observed in the previous sections can in principle have three main causes. These three potential sources of net contribution differences are shown in Figure 9.27. The first potential source of differences in net contribution is **(SELF-)SELECTION FOR EDUCATION LEVEL** upon admission to the Netherlands. The second potential source of differences in net contribution is differences in **EDUCATION PERFORMANCE**. The third potential source of differences in net contribution is differences in **LABOUR-MARKET PERFORMANCE**. The plus signs in the diagram symbolize that the group differences in net contribution are the result of the differences from these three potential sources.

This section examines the extent to which each source contributes to the differences in net contribution. This is always based on the situation with remigration and takes into account the number of children. The calculations are based on the net contribution by level of education and migration background from Table 9.4. For details of the calculation, reference is always made to the Technical Appendix.

We begin the discussion in the middle of the chart with **EDUCATION PERFORMANCE**. In this context, this refers to the results in secondary education and higher vocational and university education. The core concept here is the concept of Cito return introduced in §9.1. Cito return refers to the average education level for a certain Cito score: the higher the average education level, the greater the Cito return for that Cito score.

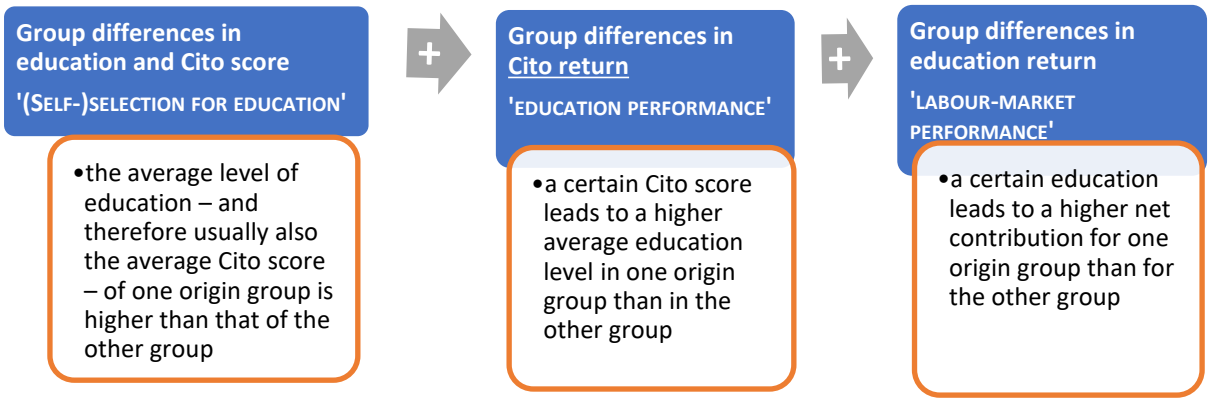


Figure 9.27 Schematic depiction of the causes of group differences in net contribution.

Cito return refers to the extent to which the immigration background and the education system from secondary education onwards play a role in the 'conversion' of Cito scores to education level. The Cito score is therefore seen as a given within this step. One could argue that differences in Cito score itself are also a product of the education system and that the immigration background has an effect on the Cito score. Recent research by the CPB[365] into differences in cognitive skills (language and arithmetic) and non-cognitive skills (behaviour and work ethic), however, shows that this is only the case to a very limited extent. In this study, corrections were made for gender, household income and education level of the parents and the urbanity of the place of residence. Pupils with a Western immigration background perform – after these corrections – "only very slightly different from pupils without an immigration background"[366]. For students with a non-Western immigration background, there is a disadvantage in both cognitive and non-cognitive skills at the start of primary school. However, these children almost catch up during primary school.[367] At the end of primary school – when the Cito score is determined – the children perform slightly better in maths[368] and work ethic and slightly worse in language and behaviour. In second-generation non-Western boys and girls from families that are comparable to native Dutch people in terms of income, education level and living environment, there are virtually no differences with native Dutch people when the Cito score is taken. At the time of the Cito Test, however, there are still considerable differences[369] in Cito score according to the income and

[365] Zumbuehl, M. & Dillingh, R. (2019)
[366] Zumbuehl, M. & Dillingh, R. (2019), pg. 10-11
[367] Zumbuehl, M. & Dillingh, R. (2019), pg. 10-12
[368] The difference for maths is in the 95% confidence interval.
[369] With correction for the other variables.

especially the education level of the parents.[370] This is in line with the relationships between Cito score and education level presented in §9.5.

With regard to the Cito return, Figure 9.28 shows that school performance is to a small extent responsible for the considerable difference with the native Dutch population. With the second generation, the influence of things such as learning and language disadvantages is smallest and we therefore limit the discussion here mainly to the second generation. In Figure 9.28, the distribution over education levels is given for Cito scores in the range 531-540. These are common Cito scores (more than a third of the total) that are around the average Cito score for the Netherlands (535) and the average Cito score for native Dutch people (536). Figure 9.28 shows that second-generation immigrants do not perform much worse – and in some respects even slightly better – than native Dutch people for average Cito scores. For example, people with a second-generation immigration background are slightly more likely to obtain a master's degree, with Western and non-Western second generations not much different from each other. On the other hand, the second generation more often than the native Dutch have lower secondary education. However, the differences more or less cancel each other out. Compare this with the small group differences in Figure 9.18 on the left, which shows the average level of education per Cito score for these three groups.

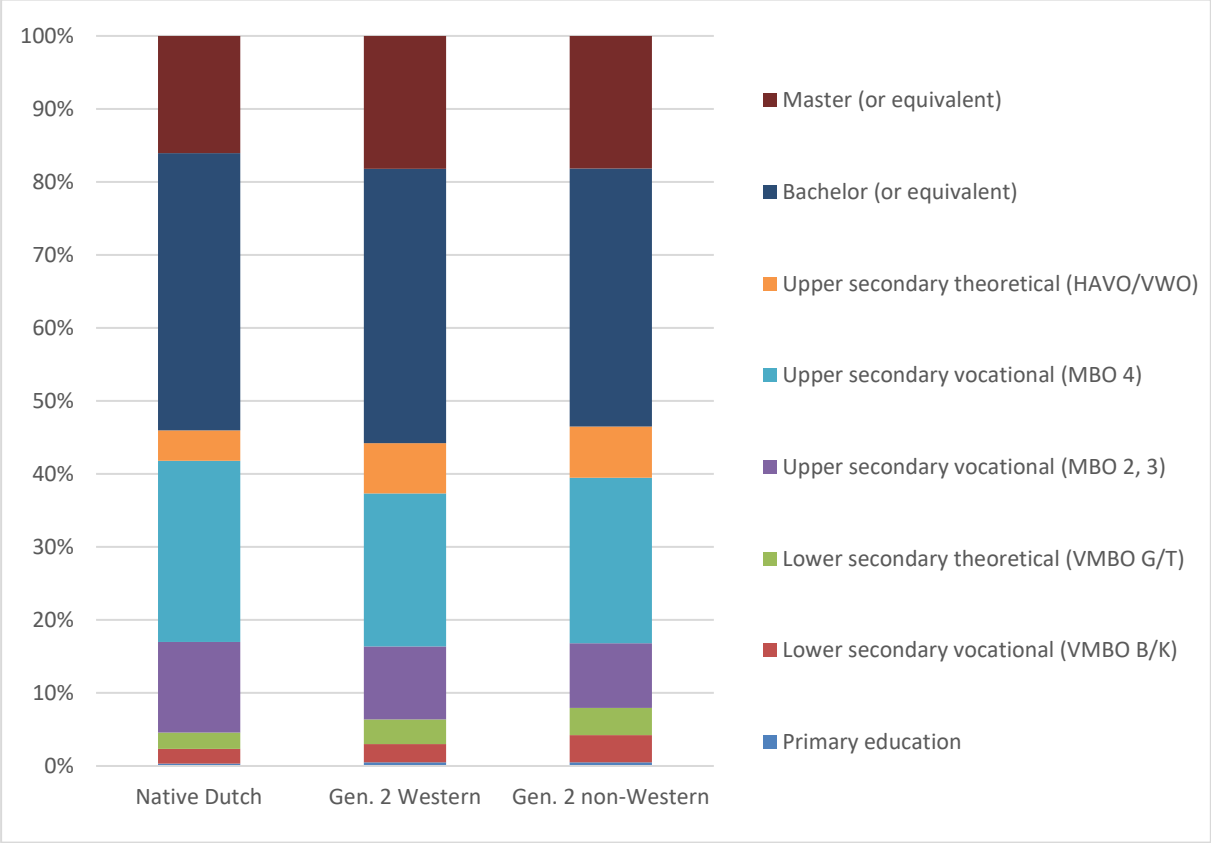


Figure 9.28 Distribution over the highest attained level of education at the age of 38, for people with a Cito score in the range 531-540, by immigration background (native Dutch and second-generation Western and non-Western). Source: our own calculation based on Statistics Netherlands microdata.

[370] Income only affects cognitive skills (language and maths, approximately 0.2 SD). Education level of the parents has an effect on both cognitive skills (language and maths, approx. 0.4 SD) and non-cognitive skills (behaviour and work ethic, approx. 0.2 SD), Zumbuehl, M. & Dillingh, R. (2019), pg. 8-10

If people with a second-generation immigration background would have the same net contribution for every level of education as native Dutch people, for the Cito scores used in Figure 9.28 (531-540), the net contribution of native Dutch people is even the lowest and that of persons with a Western second-generation immigration background the highest. By performing this calculation separately for each Cito score between 501 and 550 (so not only Cito scores 531-540), and subsequently taking the weighted average, the effect of differences in Cito return on the net contribution can be expressed in monetary terms. This facilitates comparison with the effect on the net contribution of differences in educational attainment and differences in (self)selection by educational attainment, both of which are also monetized by the method of calculation.

Table 9.5 Estimate of the effect of Cito return on the difference in net contribution compared to the Native Dutch reference, for persons with a first and second generation Western and non-Western migration background (rounded off to multiples of €5,000). Source: own calculation based on CBS microdata.

Estimate of the extent to which difference in net contribution relative to Native Dutch reference is caused by:
Cito return *(= group differences in highest attained education per given Cito score that arise in the education system because the distribution over education levels of the* 1st *and* 2nd *generation differs from those of natives with the same Cito score.)*

	Per 1st generation immigrant, with remigration, relative to Native Dutch reference[1]		
	1st generation	2nd generation[2]	Total
Western	€5,000	€0	€5,000
Non-Western	-€5,000	€0	-€5,000

[1]To avoid false precision, this figure has been rounded to multiples of €5,000.
[2]This concerns the costs for the 2nd generation, per 1st generation immigrant, weighted by the number of children and the remigration probability of the 1st generation, based on the assumption that 2nd generation children up to 18 years of age go with their parents in case of remigration. This therefore does not concern the effect for a single person of the 2nd generation. The number of children is 1.7 for Native Dutch reference, 1.4 for Western and 2.0 for non-Western migration background, whereby about ⅔ of the children belong to the 2nd generation and about ⅓ to the 1st generation.

Table 9.5 shows the results of such a calculation, but then performed per 1st generation immigrant and taking remigration into account. In order to avoid false precision, Table 9.5 (and also Table 9.6 and Table 9.7) has been rounded off to multiples of €5,000. The essence of the calculation in Table 9.5 is to transform the distribution of Cito scores for each group into a distribution of education levels and then to weigh that distribution with the net contribution per education level of the Native Dutch reference in Table 9.4 (for details, see the Technical Appendix). In this way, one can see what effect group differences in Cito return have on the net contribution. When interpreting the amounts for the 2nd generation, it should be realised that in Table 9.5 (and also in Table 9.6 and Table 9.7) it is not about the effect of a single person from the 2nd generation. In addition to remigration, the number of children is also taken into account. The number of children is considerably lower for Western (1.4 per woman) than for non-Western (2.0 per woman). The Native Dutch reference is in between (1.7 children per woman). In the calculation, only about two-thirds of these children are included in the 2nd generation; the rest are assumed to have been born in the country of origin and are therefore included in the 1st generation. All in all, this means that for the 2nd generation the amounts per individual are usually one and a half to two times higher than those reported in the tables.

The figures reported in Table 9.5 concern the effect of Cito return in relation to the Native Dutch reference. For the Western 1st generation this is a positive effect Cito return of €5,000 (rounded off). For

the non-Western 1st migration background, it is an equally large negative effect (-€5,000). For the 2nd generation, the difference with the Native Dutch reference is even negligible.

There may therefore be differences between the native Dutch people and the Western and non-Western 2nd generation – for example, in the degree of so-called under- or over-advising by primary schools[371] or in school success or failure[372] in secondary education – but these do not have a major effect on the net contribution. These results suggest that the education system is not a major source of group differences in net contribution.

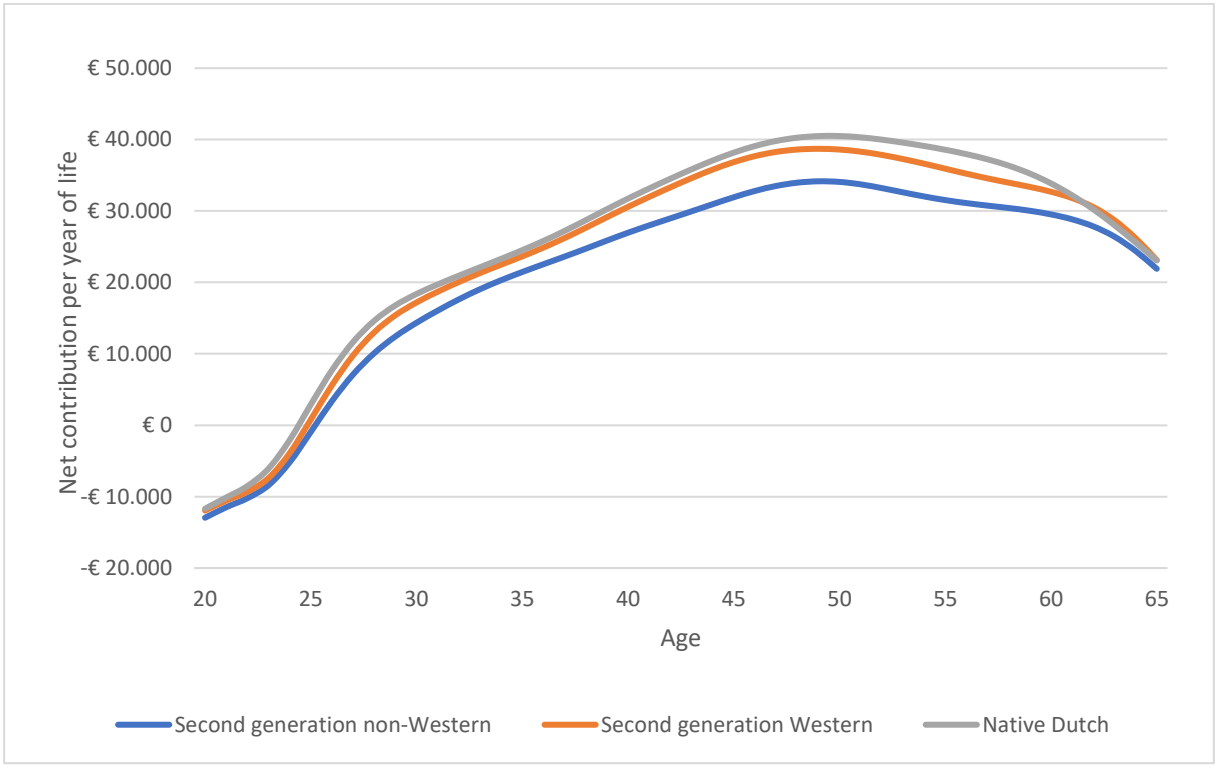


Figure 9.29 Net contribution per year of life for people with a master's degree, aged 20 to 65, by immigration background, (smoothed). Source: our own calculation based on Statistics Netherlands microdata.

The differences in **LABOUR MARKET PERFORMANCE** by immigration background are significant. The key concept here is the concept of education return (also) introduced in §9.1. Education return refers to the average net contribution for a certain level of education: the higher the net contribution, the greater the return on education for that level of education. Strictly speaking, not all differences in net contribution arise in the labour market, because things like health care are also included. However, many of the differences in net contribution with natives arise from lower payments of taxes and contributions and higher receipts of allowances and benefits. Hence, the differences studied have been grouped under the heading of 'labour market performance'.

[371] See the term *Cito under-advising and over-advising* in the Glossary.

[372] In a study into school success and failure (early school leaving), cognitive skills (intelligence) and to a lesser extent some of the *big five* personality traits of the child (in particular *conscientiousness*) were found to be decisive, and an immigration background appeared to have no significant effect. Other child-related factors such as gender and achievement motivation also had a limited effect. Parent-related factors such as income, education level and involvement in school had a limited effect. Secondary school level also had an effect, but this variable is of course strongly related to intelligence, see Traag, T. (2012), especially Chapter 4 and Tables 4.4.4 and 4.4.6.

The analysis here therefore revolves around differences between native Dutch people and immigrants who have the same level of education. There are differences according to immigration background for all education levels.[373] The differences are particularly large for higher education. This is illustrated in Figure 9.29 for those with a master's degree. The net contributions per age year of people with a Western second-generation immigration background is at most just under €3,000 lower than that of native Dutch people. For people with a non-Western second-generation immigration background, the difference with native Dutch people with a master's degree amounts to a maximum of €7,000 per age year. It should be noted, however, that the differences are smaller for the lower age years and that may be an indication that the difference with the native Dutch population is decreasing in successive cohorts of second-generation immigrants.

Table 9.6 Estimate of the effect of education return on the difference in net contribution compared to the Native Dutch reference, for persons with a first and second generation Western and non-Western migration background (rounded off to multiples of €5,000). Source: own calculation based on CBS microdata.

Estimate of the extent to which difference in net contribution relative to Native Dutch reference is caused by: **education return** *(= group differences in net contribution per given education level that arise in particular in the labour market among the first and second generation, due to differences in net contribution compared to reference natives with the same education level).*

	Per 1st generation immigrant, with remigration, relative to Native Dutch reference[1]		
	1st generation	2nd generation[2]	Total
Western	-€115,000	-€15,000	-€135,000
Non-Western	-€150,000	-€65,000	-€215,000

[1]To avoid false precision, this figure has been rounded to multiples of €5,000.

[2]This concerns the costs for the 2nd generation, per 1st generation immigrant, weighted by the number of children and the remigration probability of the 1st generation, based on the assumption that 2nd generation children up to 18 years of age go with their parents in case of remigration. This therefore does not concern the effect for a single person of the 2nd generation. The number of children is 1.7 for Native Dutch reference, 1.4 for Western and 2.0 for non-Western migration background, whereby about ⅔ of the children belong to the 2nd generation and about ⅓ to the 1st generation.

Such large differences naturally also have a significant effect on the net contribution of the different groups. The size of this effect is estimated in Table 9.6 based on the differences in net contribution by educational attainment between immigrants and reference natives (see Table 9.4 and for details the Technical Appendix). The effect of educational attainment – as measured by available data on educational attainment – is significant for the first generation: -€115,000 for Western migration background and -€150,000 for non-Western. Such large differences between the first generation and natives are in themselves not so surprising. For the higher entry ages, this often concerns education received in the country of origin. Human capital – such as diplomas and work experience – acquired in the country of origin is generally less highly valued by employers in the country of arrival.[374] However, there are differences. The knowledge and skills of the (in the context of the Dutch debate) proverbial Indian IT professionals often have an international character and are relatively easy to transport across national borders. The knowledge and work experience of the (in the context of the Dutch debate) almost equally proverbial Syrian architects and lawyers, on the other hand, is partly tied to the local context and cannot be readily used in the Netherlands.

[373] This was already apparent in §9.8, but there the net contribution of the second generation is not considered in isolation, but as the effect of the admission of the first generation, assuming remigration, which means that the exact differences for the second generation on individual level are not clear, compare §5.1.

[374] This explanation is also known from the economic literature, for a discussion see Van de Beek, J. H. (2010) pg. 94

Immigration therefore often results in a loss of human capital. That explains at least part of the big difference in education return between the first and second generations in Table 9.6. This loss of human capital is largely an indirect consequence of non-selective immigration. Immigration that is selective – with a view to a positive net contribution – on human capital would, after all, also select for internationally movable human capital, resulting in a small loss of human capital. The Indian IT specialists mentioned earlier are an example of this.

For the Western second generation, the difference with natives is small and translates into a €15,000 lower net contribution (Table 9.6). For the non-Western second generation, however, the difference with the native-born reference is remarkably large (-€65,000). This is remarkable because, after all, these are people who by definition were born in the Netherlands and are generally also educated in the Netherlands.

In addition to the limited transportability of human capital across national borders – which applies especially to the first generation – there are in general many potential explanations conceivable for the lower education return of immigrants and their children. This includes differences in social treatment, such as racism, discrimination and exclusion on the labour market, differences in social and cultural capital, knowledge of the labour market and preferences with regard to study and career choice, excessive use[375] and/or abuse[376] of social services, cultural differences in work ethic and views on women's labour market participation. In addition, for groups with a low average Cito score, the Cito distribution effect may also play a role (see Glossary of terms and §9.14), which could explain why the difference is so large especially among the non-Western second generation. Finally, differences in net contribution also arise outside the labour market through differences in health care costs, crime and rent subsidy and the like. The next section will show that all these items are strongly related to educational attainment and Cito score. It is beyond the scope of this study to explain the differences found, for this reference is made to existing research or follow-up research.

Finally, we look at **(SELF-)SELECTION FOR EDUCATION LEVEL** as a source of differences in net contribution. For the adult first generation, this concerns the highest attained education level. It is clear that there are large differences in education level according to immigration background (see §9.5). In addition, the net contribution for the population as a whole varies widely for the different levels of education (see §9.3). The differences in education level for the first generation alone therefore lead – irrespective of matters such as benefit use, labour participation or discrimination in the labour market – to large differences in net contribution with the native Dutch population.

Table 9.7 shows the differences with natives caused by differences in education level. The basic idea behind the calculation is to assign immigrants with a certain education level the same net contribution as natives and then calculate to what extent group differences in net contribution are caused by a different distribution over education levels (for details, see the Technical Appendix). For the non-Western first generation, a lower education level causes €110,000 difference with the Native Dutch reference. For the better-educated Western first generation, the difference is €10,000 with the Native Dutch reference.

[375] See §8.4 to §8.9, in particular §8.6 to §8.8.
[376] See §8.6.

For the second generation, the differences with the reference native are much smaller: only €5,000 lower for the Western migration background and €15,000 lower for the non-Western. Through the Dutch school system, the non-Western second generation in particular is on average more educated than their parents. In addition, as mentioned earlier, another factor is that these are not individuals: the net contributions of people from the second generation are only partly taken into account in the calculation.

Table 9.7 Estimate of the effect of education level on the difference in net contribution compared to the Native Dutch reference, for persons with a first and second generation Western and non-Western migration background (rounded off to multiples of €5,000). Source: own calculation based on CBS microdata.

Estimate of the extent to which difference in net contribution relative to Native Dutch reference is caused by: **(self)selection by educational level** *(= group differences in educational level that exist among the first generation at the time of immigration, because the distribution over educational levels differs from the distribution over educational levels of natives.*

	Per 1st generation immigrant, with remigration, relative to Native Dutch reference[1]		
	1st generation	2nd generation[2]	Total
Western	-€10,000	-€5,000	-€10,000
Non-Western	-€110,000	-€15,000	-€125,000

[1]To avoid false precision, this figure has been rounded to multiples of €5,000.

[2]This concerns the costs for the 2nd generation, per 1st generation immigrant, weighted by the number of children and the remigration probability of the 1st generation, based on the assumption that 2nd generation children up to 18 years of age go with their parents in case of remigration. This therefore does not concern the effect for a single person of the 2nd generation. The number of children is 1.7 for Native Dutch reference, 1.4 for Western and 2.0 for non-Western migration background, whereby about ⅔ of the children belong to the 2nd generation and about ⅓ to the 1st generation.

Differences in education level and Cito scores between groups arise from historical coincidence and processes of (self-)selection. Negative self-selection for remigration further exacerbates existing differences because it is precisely groups with a high benefit dependency, a low level of education and low Cito scores that tend to stay in the Netherlands for a long time. A possible selection mechanism is that for many people from countries with a low average education and income level, a large potential gain from immigration goes hand in hand with few opportunities for regular immigration. They often only have a chance through asylum and family immigration. Unlike study and labour immigration, these are immigration channels in which explicit selection at education level plays no role. This is expressed in a lower education level and lower Cito scores, both of which are strongly related to the Human Development Index (HDI) in the region of origin.

Historical coincidence is an important factor in the selection on human capital by level of education. Guest workers from Turkey and Morocco were often recruited (or came spontaneously) for unskilled labour. Immigration from Southern Africa (especially South Africa)[377] after the ANC took power can be characterized as elite immigration with a relatively high proportion of highly skilled people. Self-selection for education level at the time of immigration and remigration may also be influenced by the welfare state. There is some support in the literature for the welfare magnet hypothesis (§2.4), which states that the welfare state attracts low-skilled immigrants. The 10-year remigration probabilities also appear to be lower for groups with a high probability of benefit dependency (§2.2, Figure 2.9).

[377] See the Glossary.

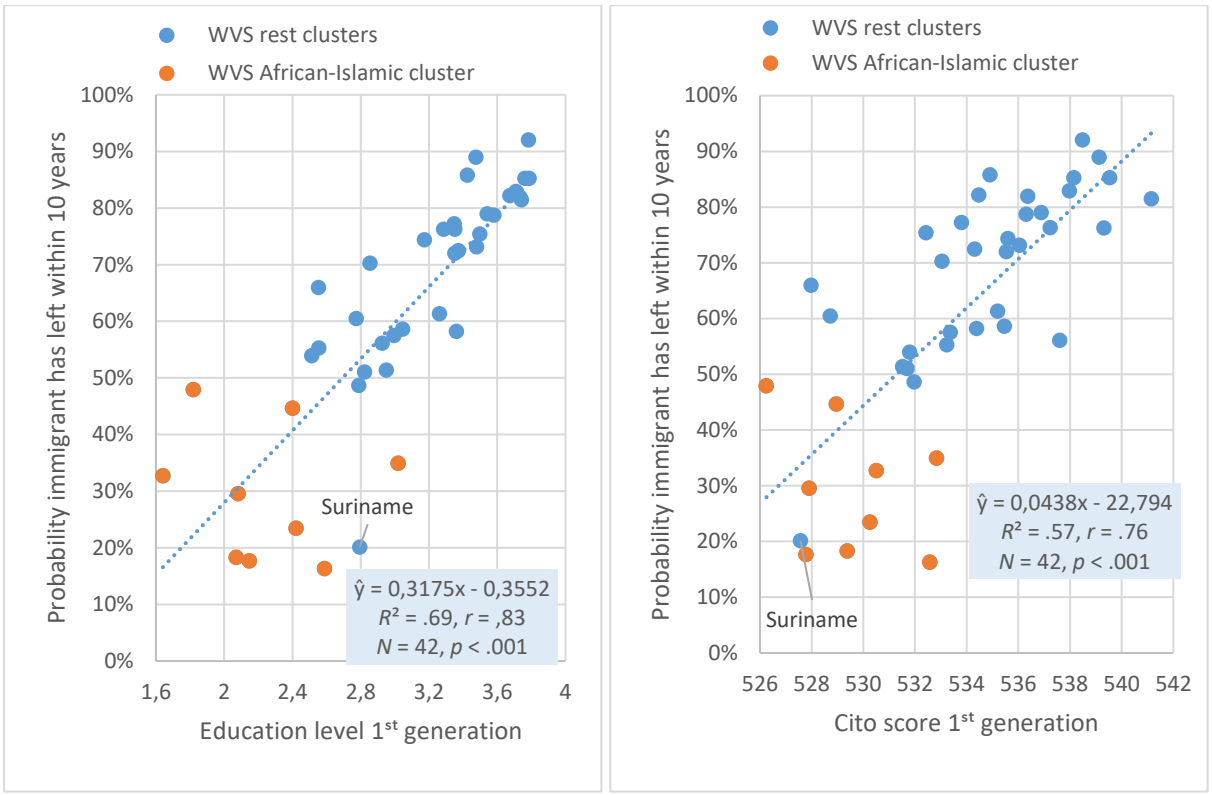


Figure 9.30 Ten-year probability of remigration (1999-2008) versus education level, 2016 (left) and Cito score, 2006-2018 (right) for first-generation immigrants from 42 regions of origin. The dotted lines are trend lines (regression lines). Our own calculation based on Statistics Netherlands StatLine and Statistics Netherlands microdata. In the figure, regions belonging to the World Value Survey African-Islamic cluster (the orange dots) are distinguished separately for the purpose of an analysis in §9.13. Note: differences with Table 9.8 are due to differences in datasets and region classification.

A similar correlation applies between 10-year remigration probabilities and education level (Figure 9.30 left) and Cito scores (Figure 9.30 right[378]). Immigrants who are highly educated often leave the Netherlands quickly, while low-skilled immigrants are more likely to stay. Hence, the average education level of a cohort of immigrants decreases over time. Something similar is going on with their children's Cito scores. Groups of immigrants whose children are doing well in the Dutch education system – with high Cito scores – have a high tendency to quickly leave the Netherlands. Immigrants whose children have low Cito scores, on the other hand, tend to stay in the Netherlands for a long time. Self-selection for remigration with regard tot education and Cito scores gradually lowers the net contribution for a group of immigrants who come in a particular year. As will be shown in §9.13, remigration probabilities are related to a wide variety of integration indicators such as education, income, social security, health care and crime.

Self-selection for remigration can have a significant effect on variables such as education level, Cito score or benefit dependency. A calculation example can clarify this. Suppose there are 1000 immigrants from a country with an average 10-year return immigration probability of 80% and an average benefit dependency of 5%. Now suppose 1000 immigrants also come from another country with an average 10-year return immigration probability of 20% and an average benefit dependency of 55%.

[378] In this figure only the correlation with the first generation is given; the correlation of 10-year remigration probabilities with the Cito scores for the second generation is .75, $N = 42$, $p < .001$.

Initially there will be 2000 immigrants with an average benefit dependency of 30%. However, after 10 years there are still 1000 immigrants in the Netherlands, but the average benefit dependency is one and a half times higher at 45%. The same calculations can be made for Cito score, education level, labour participation and other relevant variables. Self-selection for remigration can have significant effects on the net contribution if there are large differences in remigration probabilities. ↲

The observed group differences in net contribution are not caused by the Dutch education system, but by differences in education level and labour market performance. The non-selective Dutch admission policy – the Netherlands attracts many low-skilled workers – causes at least half of the net costs. Of the three sources of group differences in Figure 9.27, the Dutch education system seems to play a minor role. In terms of Cito scores, there are few differences according to immigration background between children from families that are comparable in terms of living environment and in terms of income and education level of the parents. If a child has a certain Cito score, then the ultimate highest education attained hardly differs according to immigration background. Due to the Dutch education system, the net contribution of people with the same Cito score is at most €5,000 higher or lower. The educational performance of immigrants and native Dutch people is therefore more or less comparable, given the living environment, income and education level of the parents. This is a policy-relevant fact because in the search for explanations of generally observed group differences the focus is regularly on issues such as under-advising by schools and teachers.[379]

The labour market performance of non-Western immigrants in particular, on the other hand, is relatively low compared to native Dutch people. The effect of this lower labour market performance (Table 9.6) on the net contribution – taking into account remigration and the number of children – for the non-Western first and second generation together amounts to an estimated €215,000, almost three-quarters of which is accounted for by the first generation. For Western immigrants, the difference is €135,000, almost all of which is attributable to the first generation. The difference between the first and second generation is about €100,000 for both Western and non-Westerners. A significant part of that difference is probably due to loss of human capital through (non-selective) immigration, a phenomenon that is well known from the literature.[380] The (in the context of the Dutch debate) proverbial English-speaking Indian IT specialist can immediately start working in the Netherlands without much loss of human capital, but the knowledge and work experience of the (in the context of the Dutch debate) almost equally proverbial lawyer or architect from Aleppo is usually not immediately applicable in the Netherlands and may be largely lost.

This brings us to the differences that arise through (self-)selection for immigration and remigration (Table 9.7). Significant differences arise at the 'front end' of the immigration process – in the admission

[379] The terms 'under-advising' and 'over-advising' refer to the so-called 'school advice' which is given to pupils and parents at the end of primary education. Together with the Cito score, the school advice is very decisive for placement in the 'best fitting' level of secondary education in the highly stratified Dutch school system (see for more information the Glossary item Cito score). Incidentally, over-advising seems to occur relatively often in children of highly educated parents and in children of parents who live in urban areas, and not in children with a non-Western immigration background. In a study looking at over- and under-advising, the Education Inspectorate (*Onderwijsinspectie*) noted: "Students with a non-Western immigration background are less likely to receive a higher recommendation than the [Cito score] than other students. They are also less likely to receive a recommendation that is lower than the [Cito score]", see Onderwijsinspectie (2017), pg. 10, see also the term *Cito under-advising and over-advising* in the Glossary.

[380] For a short discussion see Van de Beek, J. H. (2010), pg. 94

policy – due to (self-)selection for human capital, especially in terms of education level. These differences are exacerbated by self-selection for remigration, because the chances of remigration are lower the lower the education level. The level of education is reflected in the Cito scores of the first, second and third generation. The differences between the groups with the highest and lowest Cito score are therefore significant.[381] For the non-Western first and second generations together, the difference with the native Dutch that is caused by a lower average education level with permanent settlement is estimated to be €125,000. For Western immigrants and their children, that difference is estimated at €10,000.

The non-selective Dutch admission policy is thus estimated (a precise calculation is not possible) to be responsible for roughly half of the group differences in net contribution. A calculation example can clarify this. If 60% (most likely an underestimate) of the difference between 1st and 2nd generation in Table 9.6 is categorized as loss of human capital due to non-selective immigration and this is added to the total for 1st and 2nd generation in Table 9.7 (which relates entirely to differences due to non-selective immigration) then the sum for Western is 49% and for non-Western 51% of the difference between immigrants and natives. ↲

9.13 Net contribution as indicator for the degree of integration

Net contribution is about more than just money: it sums up in one number a variety of integration indicators ranging from education and the labour market to benefits and crime. The policy relevance of Cito score and education level – and related net contribution – can hardly be overestimated. The strong correlation between Cito score and education level does not stand alone. Table 9.8 shows the correlation of Cito scores and educational attainment of the 1st generation and the net contribution of the 1st and 2nd generations combined with most of the cost and benefit items discussed in this report and a number of other variables. For very diverse integration indicators such as education, income, social security, housing benefit, health care and security (police, justice and crime) there is a significant correlation. It can be seen that almost all correlations are in the range 0.5 – 0.9 and can therefore be called strong.[382] Differences in the educational level and Cito scores of the 1st generation thus appear to be a major determinant of integration, both of the 1st generation itself as well as of the 2nd generation and – when it comes to Cito scores – even of the 3rd generation. The net contribution is a 'sum' of all these integration indicators and expresses the degree of integration of groups in one number. ↲

The Dutch welfare state acts as a 'reverse welfare magnet' that tends to 'retain' immigrants with negative net contributions, while immigrants who score well on integration indicators often leave quickly. This is illustrated in the last column of Table 9.8 which gives the correlation between the various integration indicators and 10-year remigration probabilities of the 1st generation. Again, there are predominantly strong correlations in the range 0.5 - 0.9. There is 'negative self-selection' here, with immigrants who integrate poorly tending to settle long or permanently in the Netherlands, while immigrants who score well on integration indicators tend to leave again quickly. ↲

[381] For the 42-part division: First generation, maximum: 540.9, minimum: 527.4, difference: 13.5 (= 1.4 standard deviation), second generation, maximum: 541.1, minimum: 528.8, difference 12.3 (= 1.2 standard deviation), own calculation based on Statistics Netherlands microdata.
[382] Cohen (1988)

Table 9.8 Pearson's correlation coefficients (r) and Spearman's rank correlation coefficients (Rho) between net contribution of 1st and 2nd generation (N = 41), Cito score of 1st generation (N = 41), education level 1st generation (N = 41) and 10-year remigration probability (N = 37), among themselves and with a large number of other integration indicators, 42 division (minus the Netherlands and for remigration probabilities due to missing data also minus Central Africa, East Africa, Israel and the region Arabian Peninsula, Jordan and Lebanon). NB: these are group-level correlations, i.e. calculated based on average Cito score per region, average healthcare costs per region, etc. NB: the Pearson correlation coefficients in Figure 9.30 do not correspond to the correlation coefficients in this table due to a different world region classification.

	Net contribution		Cito score gen. 1		Education level gen. 1		10-year remigration[5]	
Indicator[1]	*r*	*Rho*	*r*	*Rho*	*r*	*Rho*	*r*	*Rho*
Integration								
Net contribution	-	-	0,80	0,84	0,88	0,87	0,79	0,83
Personal primary income gen. 1	0,91	0,95	0,74	0,74	0,87	0,87	0,79	0,80
Integration indicator gen. 2	0,84	0,81	0,82	0,84	0,75	0,69	0,65	0,63
% 1 parent born abroad gen. 2	0,81	0,84	0,58	0,64	0,80	0,81	0,66	0,67
Cost of crime, police and justice	-0,96	-0,96	-0,70	-0,74	-0,79	-0,79	-0,71	-0,79
Cito								
Cito gen. 1	0,80	0,84	-	-	0,80	0,79	0,71	0,68
Cito gen. 2	0,81	0,81	0,86	0,86	0,81	0,78	0,70	0,66
Cito gen. 3	0,64	0,58	0,72	0,71	0,66	0,60	0,51	0,44
Education								
Education level gen. 1	0,88	0,87	0,80	0,79	-	-	0,71	0,68
Education level gen. 2	0,51	0,47	0,61	0,56	0,50	0,45	0,54	0,50
% HAVO/VWO gen. 1[2]	0,80	0,86	0,96	0,97	0,82	0,84	0,73	0,68
% HAVO/VWO gen. 2[2]	0,77	0,75	0,85	0,82	0,77	0,73	0,68	0,60
% Special needs education gen. 1[2,3]	-0,82	-0,84	-0,94	-0,95	-0,82	-0,82	-0,65	-0,65
% Special needs education gen. 2[2,3]	-0,79	-0,74	-0,85	-0,82	-0,76	-0,73	-0,62	-0,58
Education costs								
Cost of pupil weight gen. 1	-0,84	-0,84	-0,79	-0,85	-0,83	-0,82	-0,59	-0,63
Cost of pupil weight gen. 2	-0,83	-0,88	-0,61	-0,71	-0,84	-0,89	-0,59	-0,68
Education costs total	-0,78	-0,74	-0,54	-0,50	-0,61	-0,58	-0,61	-0,63
Costs of social security, care								
Costs of state pension (minus contrib.)	-0,88	-0,94	-0,60	-0,75	-0,68	-0,76	-0,57	-0,79
Costs of social assistance	-0,74	-0,80	-0,66	-0,83	-0,70	-0,74	-0,69	-0,71
Costs of disability (minus contrib.)	-0,61	-0,69	-0,67	-0,73	-0,64	-0,64	-0,50	-0,57
Costs unemployment (minus contrib.)	-0,83	-0,81	-0,61	-0,58	-0,70	-0,68	-0,76	-0,78
Costs of other social security	-0,95	-0,94	-0,73	-0,74	-0,79	-0,78	-0,80	-0,85
Healthcare costs (minus contributions)[4]	-0,87	-0,88	-0,76	-0,82	-0,69	-0,72	-0,66	-0,74
Tax, benefits								
Tax minus public goods, etc.	0,83	0,87	0,74	0,75	0,84	0,85	0,70	0,73
Housing benefit	-0,74	-0,72	-0,45	-0,44	-0,59	-0,57	-0,65	-0,68
Child benefit, budget, allowance	-0,79	-0,79	-0,64	-0,64	-0,64	-0,64	-0,61	-0,70

[1]Does refer to immigrants and their children, unless the generation (abbreviated to gen.) is named.
[2]Under 15-year-olds.
[3]Practical education, secondary special education, learning support education.
[4]Only costs covered by compulsory basic health insurance.
[5]10-year remigration probabilities, based on CBS statline, Immigrants; migration reason, socioeconomic category, 1999-2016, retrieved 22-12-2022 from: https://opendata.cbs.nl/statline/#/CBS/nl/dataset/84140NED/table?dl=69228
All correlations are significant at .001 level except the underlined correlations which are significant at .01 level.

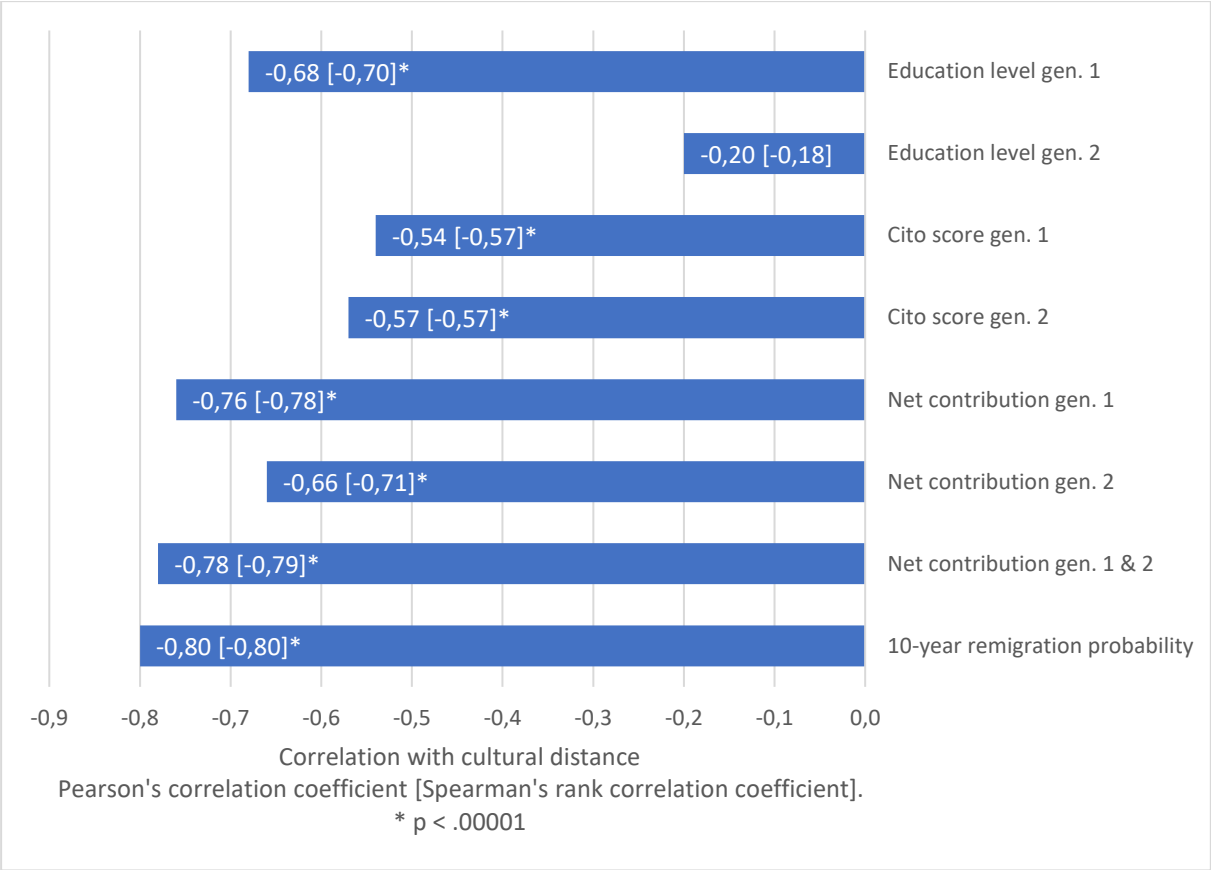


Figure 9.31 Pearson correlation coefficients [in brackets Spearman's rank correlation coefficients] between Cito score 1st and 2nd generation (N = 67), educational level 1st and 2nd generation (N = 67), net contribution 1st and 2nd generation both individually and in total (N = 67) and 10-year probabilities of remigration[383] (N = 30) and, on the other hand, cultural distance[384] to the Netherlands based on secular-rational and emancipatory values from the World Value Survey (WVS, averages over 4th, 5th, 6th and 7th wave). Own calculation based on CBS microdata (2016) and the World Value Survey (longitudinal dataset). Note: these are correlations at group level, i.e. average Cito score, educational attainment, net contribution and remigration probabilities by region.

[383] Remigration probabilities based on CBS statline Immigrants EU/EFTA; derived migration purpose, socio-economic category, retrieved 22-12-2022 from: https://opendata.cbs.nl/#/CBS/nl/dataset/84808NED/table?dl=72B6F and Immigrants non-EU/EFTA; migration motive, socio-economic category, retrieved 22-12-2022 from: https://opendata.cbs.nl/#/CBS/nl/dataset/84809NED/table?dl=72B6E

[384] Operationalised from the very large-scale and long-running World Value Survey. To increase the number of regions, it is averaged over the 4th, 5th, 6th and 7th waves. The cultural distance to a particular region is based on the distance between the Netherlands and that region along the vertical *Traditional - Secular-Rational* axis and the distance along the horizontal *Survival - Self Expression* axis. This was done by calculating the 'Euclidean distance' between the Netherlands and the other regions, i.e. by calculating the square root of the sum of the square of vertical distance and the square of horizontal distance (in other words, by applying the Pythagorean Theorem). This calculation used the variables Y010 and Y020 from the longitudinal WVS dataset. In total, data were available for 318,223 individuals. Within the WVS documentation, the vertical and horizontal axis are also referred to as the variables *Secular Values* and *Emancipatory Values*. In the case of the calculation concerning the 10-year probabilities of remigration, data from 30 countries were used. Other calculations are based on data broken down by the 87 division into world regions. To this end, the weighted average of the Euclidean distance was taken in if necessary, weighted by the population size on 1 January 2022: CBS Statline Population; sex, age, generation and migration background, 1 January retrieved 22-12-2022 from:
https://opendata.cbs.nl/#/CBS/nl/dataset/37325/table?dl=73093

9.14 Education, Cito scores, net contribution and cultural distance: an exploration

By Jan van de Beek, Gerrit Kreffer and Joop Hartog

In this section we explore the extent to which the culture of the countries of origin of the first generation can explain the differences in net contribution of immigrants in the Netherlands found so far. Culture as an explanation for differences in economic development has been on the rise since the 1980s.[385] Culture, defined as the set of norms and values in a society, has also been measured since then. We exploit the results of the World Values Survey, a large-scale, long-term study of values and norms in a large number of countries. The cultural world map in Figure 9.32 maps how high countries score on two axes. The vertical axis shows the extent to which people cherish so-called 'secular-rational' or 'traditional' values (in short, 'secular-rational values'). The horizontal axis shows the extent to which the focus is on 'self-expression' or 'survival' (in short, 'emancipatory values').

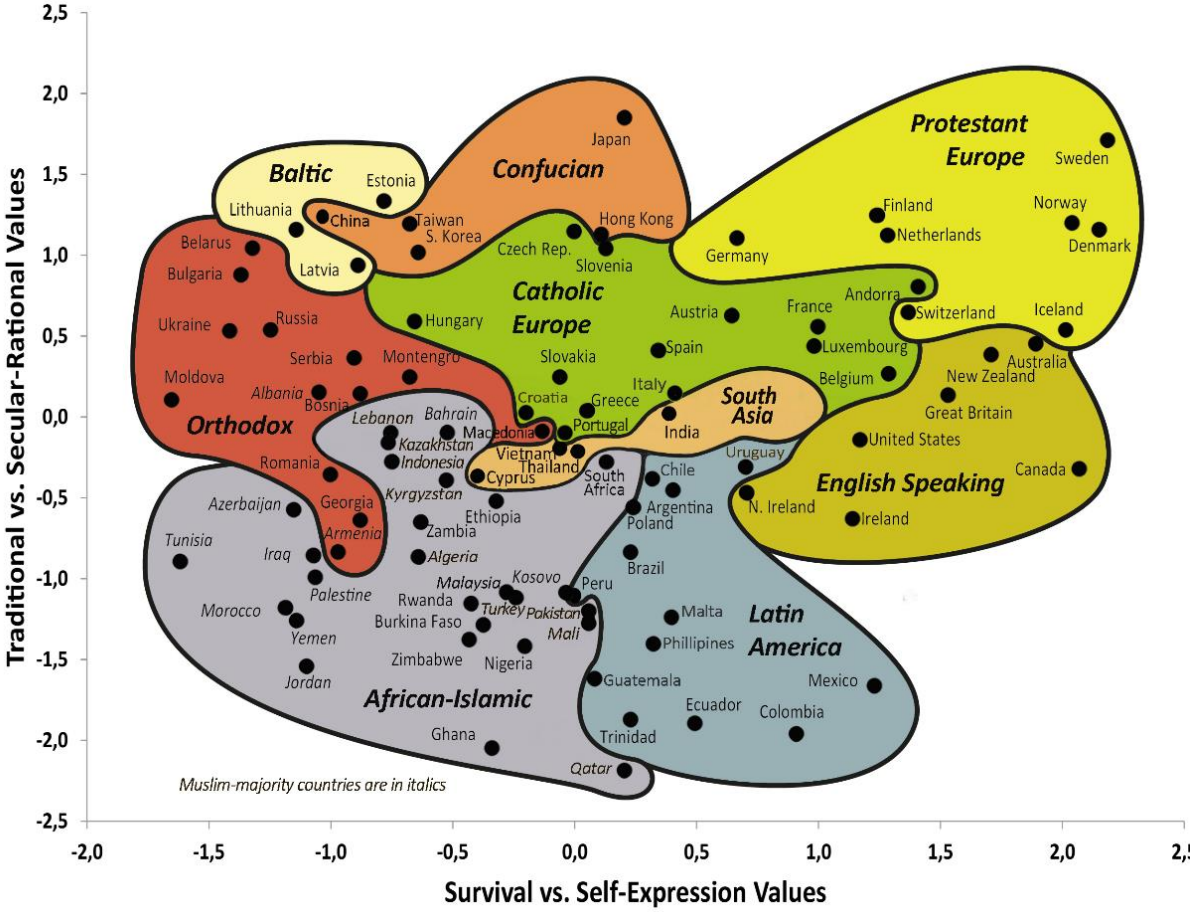


Figure 9.32 Cultural values map. Source: World Values Survey (2017) Inglehart-Welzel World Cultural Map, retrieved 12-2-2021 from: https://www.worldvaluessurvey.org/images/Culture_Map_2017_conclusive.png

[385] Beugelsdijk en Van Schaik (2001)

The countries are divided into nine cultural clusters. [386] In the *Protestant Europe cluster* – which includes the Netherlands and Scandinavia – people score highest on secular-rational and self-expression values. In the *African-Islamic cluster* – which includes many countries in Africa and the Middle East – one scores highest on values focused on tradition and survival.

A country's culture is strongly related to its level of democracy and the level of technological development of its economy.[387] The percentage of residents who are Protestant versus the percentage of Muslims also determines their place on the world map.[388] People internalize in childhood the basic values that are important in dealing with others and for the survival of their group. Practically speaking, an average 1st generation migrant from Yemen has to overcome a great cultural distance to function well in the Netherlands. Certain basic values therefore sometimes change afterwards.[389] This is less true for the 2nd generation as their education is basically Dutch. However, parents, family, friends and links to the parents' country of birth are also relevant to their values.[390] Their values may be more similar to those of the Netherlands, but given their bi-cultural background, the development of an own set of values is also conceivable.

Values from immigrants' countries of origin are related to their integration in the Netherlands. Figure 9.31 shows the correlation between secular-rational and emancipatory values and cultural distance from the Netherlands on the one hand and the four main variables in Table 9.8 on the other, namely Cito score, educational attainment and net contribution of the first and second generation and first-generation remigration probabilities. As explained in §9.13, these variables are strongly related to a large number of (other) integration indicators, ranging from school and labour market performance to issues such as housing, health care and crime. This point is further illustrated in Figure 9.33.

For example, Figure 9.33 (top) shows a correlation between second-generation Cito scores and the extent to which residents of the country concerned are committed to so-called secular-rational values. It can be seen that higher mean scores on the secular-rational values are associated with a higher Cito score. Conversely, lower Cito scores are associated with lower scores for secular rational values, in other words a more traditional value pattern, which is characteristic of the African-Islamic cluster (the orange dots).

Figure 9.33 (middle) shows a correlation between the net contribution of the first and second generation and the 'socio-cultural distance' between the Netherlands and a number of countries of origin. This socio-cultural distance is measured on an imaginary 'cultural value map' similar to Figure 9.32. It can be seen that greater cultural distance is associated with a lower net contribution. This mainly concerns countries from the *African-Islamic* clusters (orange dots). Conversely, there are high net contributions for immigrants from the clusters *Protestant* and *Catholic Europe*, *Confucian*, *English speaking* and the part of the *Latin America* cluster that includes Argentina. These are countries on the cultural value map in a circle around the Netherlands.

[386] The values are subject to change, but more or less stable clusters can be observed over a longer period of time, see for an animation: WVS, Live cultural map over time 1981 to 2015, retrieved 12-2-2021 from: https://youtu.be/ABWYOcru7js
[387] Welzel (2013) blz. 92
[388] Welzel (2013) blz. 136-137
[389] Pettersson (2007)
[390] Epstein en Gang (2010)

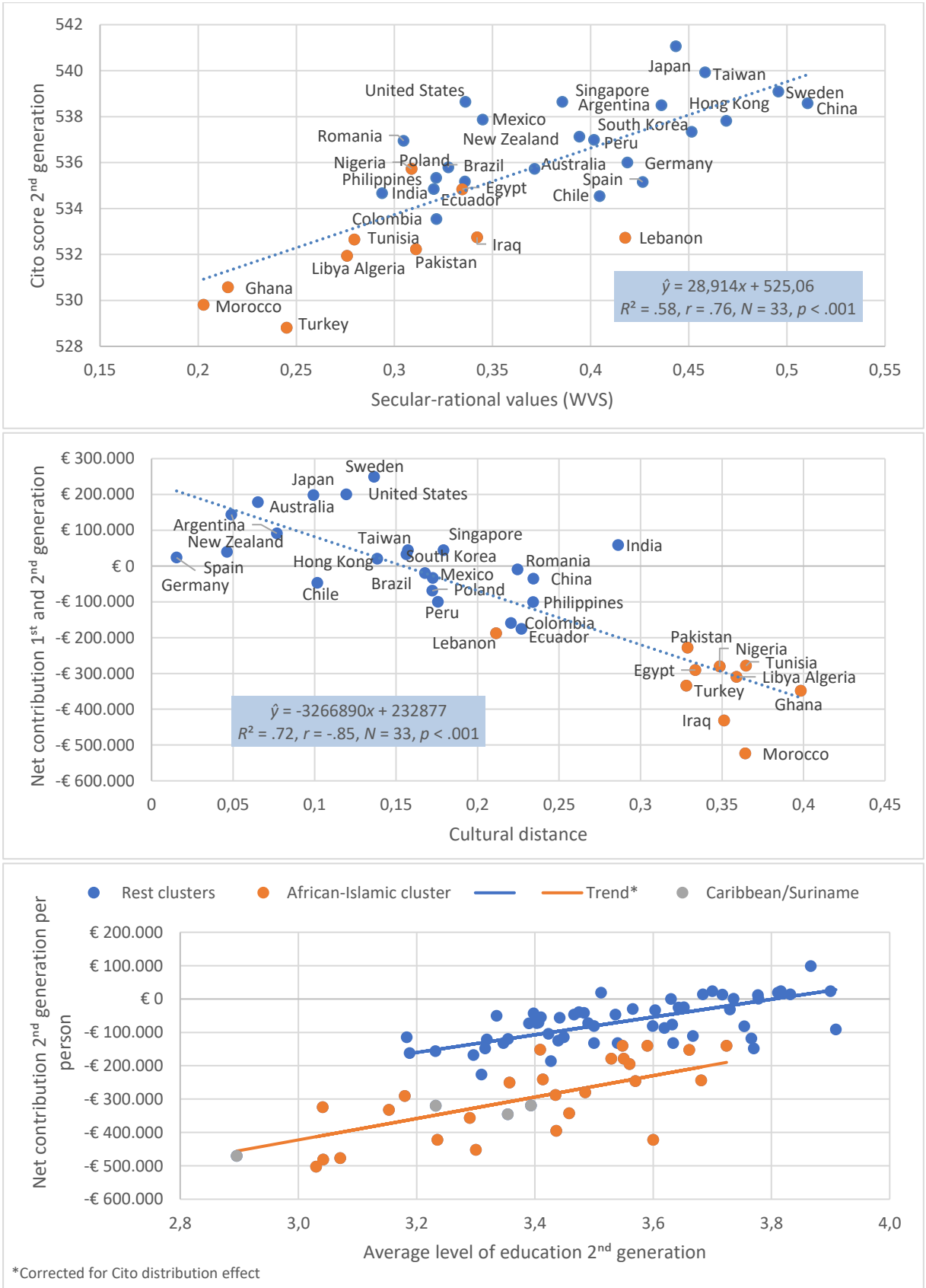


Figure 9.33 Secular-rational values (WVS) vs. Cito scores for the 2nd generation (top) and Cultural distance (WVS, Euclidean) vs. net contribution of 1st and 2nd generation (middle), for 30 countries of origin. Education level (SEC 5-part division) and belonging to African-Islamic cluster (dummy) as predictors of the net contribution of the 2nd generation, for 85 regions of origin (bottom). Source: own calculation based on CBS microdata.

Figure 9.33 (bottom) illustrates the possible influence of culture, cultural distance or related variables on the net contribution. For the second generation, the level of education appears to explain a statistically significant 47%[391] of the variance in net contribution per person. Education level alone, however, gives a distorted picture. In the Dutch school system, the Cito score and the school advice of the teacher at primary school are very decisive for the eventual highest level of education attained. In particular, progression to HAVO and VWO gives a chance to follow higher (tertiary) education which is associated with a high net contribution. Among origin groups with a high average Cito score, pupils who receive a 'VWO advice' (from the primary school teacher) will on average have a high Cito score compared to all pupils who receive a VWO advice. Among origin groups with a low average Cito score, pupils who receive VWO advice will usually have a relatively low cito score on average. Something similar applies to pupils who receive a HAVO or HAVO/ VWO advice. This may lead to differences in the final school and labour market performance. If we include this so-called 'Cito-distribution effect' (see Glossary), the explained variance rises to 69%.

In the previous sections of this chapter, it has been emphasised time and again how decisive Cito scores and level of education are for the net contribution. The preceding analysis underlines that importance once more. Nevertheless, part of the variance remains unexplained. Some 2nd generation groups – even when one corrects for education and the Cito distribution effect – are clearly underperformers in terms of net contribution. It is striking that a large proportion of these groups are in the *African-Islamic cluster* (AIC).

If whether or not[392] belonging[393] to the *African-Islamic cluster* is added as an explanatory variable, the explained variance of the total model rises to 79%. Being part of the *African-Islamic cluster* leads to a

[391] The models in the rest of this section are based on the 87-part division, excluding the Netherlands, with Albania and the region of Former Yugoslavia (excluding Croatia and Slovenia) merged into one region. Thus, $N = 85$ applies to all models. Furthermore, both for each regression model as a whole (ANOVA), and for all individual predictors in each model, as well as for the ΔR^2 between successive models, $p < .001$ applies.

[392] In the basic model, Pakistan, Turkey, Afghanistan, Iran, Syria, Iraq, Jordan, Lebanon, the Arabian Peninsula and all regions in Africa with the exception of Southern Africa are included in the AIC. Immigrants from Southern Africa (dominated by South Africa) differ greatly from the average inhabitant of Southern Africa due to historical coincidences. Something similar applies to immigrants from Indonesia, which are mostly 'Indische Nederlanders' (a group 'Indo-Dutch' people with a legal status as Dutch citizens, which for the most part migrated from the former Dutch colony to the Netherlands around the time of Indonesian independence) form an essentially different migrant group than the Indonesians and Indonesia has therefore not been included in AIC. Countries outside Africa with a substantial Muslim minority - such as India, Israel and Singapore - have also not been included in the AIC. The region of the former Soviet Union (excluding the Baltic States) has also not been included in AIC, despite a substantial Muslim minority. Although there are many Muslims living in some former Soviet republics, this region has not been further divided in the present report due to existing CBS classifications. However, persons originating from these former Soviet republics are also mostly ethnic Russians, see Jennissen, R., Bovens, M. & Engbersen, G. (2021), footnote 29. Calculation of the proportion of Muslims based on the CIA World Factbook, retrieved 6-2-2022 from https://www.cia.gov/the-world-factbook/field/religions

[393] Three regions are difficult to classify. In terms of the second generation (which is the focus of this analysis), the region 'Other Indian subcontinent, excluding Pakistan', consists for about two-thirds of predominantly Muslim Bengalis (CBS Statistics, 2016) and Bangladesh falls into the AIC cluster in various WVS waves, but two-thirds of the first generation consists of people from the predominantly non-Muslim countries of Nepal and Bhutan. The region of 'Former Yugoslavia (excluding Croatia and Slovenia) and Albania' is about half Muslim, but (like other Muslim countries that once had communist regimes) scores higher on secular-rational values than the average Muslim country. The region of Other Philippines, Malaysia, Brunei and Timor Leste (dominated by Malaysia in terms of immigrants) is partly Muslim (ca. 60%), but has a changing status over the years within the WVS

much lower predicted net contribution (the difference between the orange and blue line) with the same level of education (and controlling for the Cito-distribution effect). This difference in predicted net contribution amounts to approximately €115,000.[394]

Suriname, Aruba and the (former) Netherlands Antilles are not included and the World Values Survey. As former Dutch colonies, they are more linked to the Netherlands in terms of language and education than other Latin American countries. It appears that Suriname and the three Caribbean regions[395] are in the middle of the 'point cloud' of the *African-Islamic cluster* (the grey dots amidst the orange dots in Figure 9.33 below). Apparently there are strong similarities between these areas in terms of factors determining net contribution. On successive WVS culture maps, the included Caribbean countries – Haiti, Dominican Republic and Trinidad and Tobago – score as low as average AIC countries on secular-rational values. When it comes to emancipatory values, these Caribbean countries score slightly higher. If we add Suriname and the three Caribbean regions[396] to the African-Islamic cluster, a region is created that we call AIC+. This corresponds to the situation in Figure 9.33 (below). The explained variance in this case is 83% and belonging to the group AIC+ is associated with a predicted net contribution that is about €145,000 lower.

The results found here do not stand alone. In the graphs showing the relationship between remigration probabilities and benefit utilisation (Figure 2.9) and between remigration probabilities and level of education or Cito scores (Figure 9.30), the *African-Islamic cluster* also stands out as a more or less separate group with often relatively unfavourable scores, i.e., high benefit dependency (compare also Figure 8.7) and a generally low average Cito score and low average level of education. The same applies to Suriname.[397]

Table 9.9 shows the differences between the clusters in a slightly different way. Obviously, the number of observations per cultural cluster is smaller here than in the analysis in Figure 9.33 (below), but this analysis shows in a bit more detail how the different clusters relate to the *Protestant Europe cluster* in which the Netherlands is located. In Model 1, which tests only the effect of belonging to a particular cluster, the difference in net contribution relative to the *Protestant Europe cluster* ranges from around €30,000 higher for the *Confucian cluster* to around €300,000 lower for the AIC+ cluster. In this model, there are five clusters for which the 2nd generation has a significantly lower net contribution than the 2nd generation from *Protestant Europe* (identifiable by one or more *). After adjusting for education level, there are still four clusters that are significantly different (Model 2). If the cito-distribution effect

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waves (increasingly rational-secular and in the last wave not in AIC). The sensitivity to these choices was tested by adding these three regions, in the order presented here, to a basic model without these regions. In Figure 9.33, these three regions are not included. Compare WVS, Findings and Insights, retrieved 30-12-2021 from https://www.worldvaluessurvey.org/WVSContents.jsp

[394] The results are sensitive to the operationalisation of the dummy variable AIC, i.e. sensitive to which countries and regions are included or excluded in the African-Islamic cluster (AIC). However, adding the three regions from the previous footnote in the order of presentation has a limited effect: < 0.5% lower explained variance for adding the first two regions and < 2% lower explained variance for adding the third region.

[395] The Caribbean regions in the 87-part division are the region Aruba and the (former) Netherlands Antilles, the Dominican Republic and the region Other Caribbean.

[396] In a classification of world regions based on culture recently proposed by the WRR, Suriname and part of the Caribbean are designated as a separate cultural region, Jennissen, R., Bovens, M. & Engbersen, G. (2021)

[397] The Caribbean regions in the 87-part division - Aruba and the (former) Netherlands Antilles, the Dominican Republic and the region of Other Caribbean countries - cannot be distinguished separately in the above figures due to lack of data.

is also included (Model 3), there are still three clusters for which the 2nd generation over the life course makes a significantly lower net contribution to the Dutch treasury. These are the clusters *Orthodox+* (incl. Baltics), *Latin-America* (excl. Suriname and Caribbean) and AIC+. On the value map in Figure 9.32, these clusters are furthest away from the cluster *Protestant Europe* to which the Netherlands belongs. For the *Latin America cluster*, the net contribution over the life course of the 2nd generation is more than €60,000 lower than might be expected on the basis of education level and Cito score. For the *Orthodox+ cluster*, this difference is almost €85,000. For the AIC+ cluster – which is furthest away from the Netherlands in the value map in Figure 9.32 – the 2nd generation over the life course has a net contribution that is more than €180,000 lower than one would expect on the basis of education level and Cito score. This group also has the highest significance level in Model 3 ($p < .001$). To be clear: these are people born and educated in the Netherlands. And as demonstrated in §9.13: it is not about money alone, because net contribution is strongly related to all kinds of indicators of integration.

Table 9.9. Three regression models to estimate the effect on net contribution of culture, education level and the Cito distribution effect, for 81 countries and regions, for 2nd generation immigrants.

	Model 1 (only dummy variables)		Model 2 (educational level added)		Model 3 (Cito distribution effect added)		N (number of observations)
R^2	0,72		0,83		0,86		
R^2 adjusted	0,69		0,81		0,84		
F	26,45	***	47,41	***	47,41	***	
Intercept	-€5.517		-€976.973	***	-€737.734	***	81
Culture cluster							
AIC+[1]	-€296.636	***	-€229.859	***	-€181.233	***	30
Orthodox+[2]	-€134.702	**	-€85.215	*	-€84.401	*	5
Latin-America[3]	-€94.834	*	-€76.892	*	-€61.726	*	12
South Asia	-€118.107	*	-€91.625	*	-€56.334		5
Catholic Europe	-€85.982	*	-€30.395		-€18.012		10
English Speaking	-€42.260		-€7.449		-€10.435		6
Confucian	€30.228		-€10.535		€6.655		7
Educational level		***	€268.124	***	€195.530	***	81
Cito distribution effect		***			€263.800	***	81

Reference cluster is Protestant Europe

[1]Incl. Suriname, Caribbean [2]Incl. Baltics [3]Excl. Suriname, Caribbean

* $p < .05$; **; $p < .01$; ***: $p < .001$

In the 2nd generation, cultural distance between the Netherlands and country of origin correlates with net contribution: groups with large cultural distance often have low net contribution. The previous results show that 2nd generation groups that have relatively low net contributions – even after adjusting for education and the cito distribution effect – are mainly located in the lower-left quadrant on the WVS culture map. This is the quadrant with low scores for emancipatory and rational-secular values and also the quadrant dominated by the *African-Islamic cluster* and to a lesser extent by the *Orthodox+* and *Latin-America clusters*. For these three clusters – even after the aforementioned correction – the net contribution is significantly lower than for immigrants from the *Protestant Europe cluster*. Immigrants from these clusters thus have on average a lower net contribution than one would expect on the basis of education level and Cito score. As argued earlier (§9.13), net contribution is a good indicator of the overall degree of integration. The results suggest that even among the 2nd generation – those born, raised and educated in the Netherlands – the culture of the parents' country of origin still plays a major role. ↲

However, the above does not explain why the observed differences exist. All kinds of explanations are conceivable. First of all, differences in the behaviour of the groups themselves. An example is the cost of security care (police, justice and crime), which is 2.3 times higher for the second generation from AIC+ regions than for the second generation from the other regions of the world.[398] The proportion of second generation children born of 'mixed relationships' also appears to influence the net contribution (see §5.4). In addition, the behaviour of the receiving society can also play a role: think of discrimination on the labour market on characteristics such as skin colour, headscarf or surname.

Characteristics of the region of origin could also be influential. One possible candidate is the Human Development Index (HDI).[399] The 15 lowest HDI scores in the 87-part division into world regions all belong to the *African-Islamic cluster*. And of the 35 lowest scores, 30 belong to the AIC+ group. Furthermore, asylum migrants – who generally have a low net contribution – come relatively often from Islamic countries.

The aforementioned variables are also interlinked. For example, there is a strong negative correlation between the net contribution of the 2nd generation and the proportion of asylum migrants among the 1st generation[400] or the proportion of Muslims[401] among the population in the region of origin[402]. In

[398] Unweighted average of security costs (see §8.12) for age groups 12-18 years, 18-25 years, 25-45 years and 45-65 years, for the 42-division, where AIC+ is operationalised as all African regions (incl. Morocco, excl. Southern Africa), Turkey, Pakistan, the region Afghanistan, Iran, Syria and Iraq, the region Arabian Peninsula, Jordan and Lebanon, the region Former Yugoslavia (excl. Slovenia and Croatia) and Albania, Suriname, the Caribbean and the region Aruba and (former) Netherlands Antilles, $t(15) = 7.25$, $p \ll .001$.

[399] Average HDI over the years 2015-2017, with values for Somalia, Taiwan and the region of Aruba and the (former) Netherlands Antilles imputed on the basis of regression on education level (CBS SOI 5 division).

[400] Spearman's rank correlation coefficient -.51, $N = 85$, $p < .001$, calculation of asylum share based on CBS-StatLine *Immigranten; migratiereden, sociaaleconomische cat, verblijfsduur 1999-2015*, retrieved 6-2-2022 from https://opendata.cbs.nl/statline/#/CBS/nl/dataset/83002NED/table?dl=61F00 and for countries not included in this table an estimate (calibrated on observed totals per continent) has been made o. e.g. immigration and 1st asylum requests over the period 1999-2015 in CBS-StatLine tables *Asielverzoeken; nationaliteit, vanaf 1975*, retrieved 6-2-2022 from: https://opendata.cbs.nl/#/CBS/nl/dataset/80059ned/table?dl=61F03 and Immigration and emigration; by month, immigration background, sex, retrieved 6-2-2022 from: https://opendata.cbs.nl/#/CBS/nl/dataset/83518NED/table?dl=61F69

[401] Relevant, because we are talking about the *African-Islamic cluster*.

[402] Spearman's rank correlation coefficient -.45, $N = 85$, $p < .001$, calculation of Muslim proportion based on CIA World Factbook, retrieved 6-2-2022 from https://www.cia.gov/the-world-factbook/field/religions

contrast, between the HDI in the region of origin or the proportion of 2nd generation persons with one parent born in the Netherlands, the correlation with the net contribution of the 2nd generation is strongly positive.[403] This interconnectedness[404] of potential explanatory variables makes it difficult to detect underlying causes.

The above results suggest that culture and cultural distance, or related variables such as the degree of 'development' (HDI) in the region of origin, technological development of the economy and religion can be important explanatory variables for group differences in the net contribution of the second generation that cannot be explained by differences in education and the Cito distribution effect.

However, these results should be interpreted with caution. After all, statistical correlation is not yet a causal relationship. We had to base our analysis on values measured among residents of countries of origin, as we could not have values measured among immigrants from the relevant countries of origin living in the Netherlands. More research is needed, which falls outside the scope of this mainly descriptive study. The relationships shown here between value preferences and socio-cultural distance on the one hand, and the various indicators for socio-economic integration on the other, are however certainly worthy of further investigation. Potentially, they can provide insights that policymakers can incorporate into future immigrants' admission and integration policies.

[403] Spearman's rank correlation coefficient .71 respectively .61, $N = 85$, $p < .001$.
[404] The correlation coefficients of the 10 combination of the five variables mentioned in this paragraph range in absolute terms from .43 to .71, with $N = 85$, $p < .001$ in all cases.

Table 9.10 Cito score, % special needs secondary education (PRO/VSO/LWOO), % HAVO/VWO secondary education, pupil weight, educational level (weighted by SEC 5-part division), all by 1st and 2nd generation; % with 1 parent born abroad, % integration, only 2nd generation.

Variable	Cito score			PRO/VSO/LWOO		HAVO/VWO		Pupil weight		Education		1 parent abroad	Integration
Generation	1	2	3	1	2	1	2	1	2	1	2	2	2
Native Dutch reference	535,9	535,9	535,9	14,7%	14,7%	48,4%	48,4%	0,034	0,034	3,37	3,37	100,0%	100,0%
Afghanistan, Iran, Syria and Iraq	531,4	534,0	536,6	26,3%	18,6%	31,3%	46,5%	0,557	0,331	2,57	3,60	15,4%	65,6%
Arabian Peninsula, Jordan and Lebanon	532,3	532,8	534,1	28,3%	20,9%	33,1%	39,6%	0,376	0,300	2,77	3,54	47,5%	70,2%
Aruba and (former) Netherlands Antilles	527,5	531,4	535,1	41,3%	28,4%	17,0%	32,0%	0,275	0,132	2,78	3,39	55,1%	39,4%
Belgium and Luxemburg	535,2	536,4	536,5	16,7%	15,8%	48,5%	49,6%	0,112	0,051	3,27	3,34	90,4%	89,1%
Brazil, Argentina, Paraguay, Uruguay, Chile, Fr. Guiana	532,0	536,0	535,2	30,8%	14,5%	32,4%	52,3%	0,146	0,074	3,08	3,56	84,9%	85,7%
Bulgaria and Romania	530,9	536,5	537,5	45,4%	15,2%	22,1%	53,4%	0,321	0,094	3,08	3,67	71,8%	76,5%
Caribbean	528,6	530,6	534,4	45,0%	31,4%	17,0%	26,8%	0,293	0,252	2,35	3,15	56,1%	8,2%
Central Africa	528,0	531,8	535,6	41,9%	28,8%	19,6%	34,1%	0,563	0,342	2,55	3,45	41,1%	54,1%
Central America and South America Other	532,6	535,1	535,3	25,1%	15,8%	40,7%	50,2%	0,167	0,102	3,13	3,55	77,9%	71,1%
China, Mongolia and North Korea	537,4	538,6	537,5	14,1%	6,6%	49,2%	71,8%	0,193	0,396	2,93	3,82	13,5%	117,3%
Denmark, Sweden and Finland	537,2	538,6	538,3	10,6%	7,6%	67,5%	68,4%	0,120	0,017	3,70	3,75	89,1%	111,2%
East Africa	531,0	537,0	535,6	26,8%	10,8%	34,8%	59,4%	0,393	0,037	3,07	3,59	86,4%	72,4%
EFTA, dwarf states and crown dependencies	538,0	538,9	538,9	8,4%	9,2%	64,4%	65,6%	0,098	0,013	3,71	3,72	92,0%	110,5%
Former Soviet Union (excl. Baltic states)	534,3	536,3	536,9	18,0%	13,1%	47,7%	55,4%	0,298	0,186	3,15	3,19	44,9%	75,9%
Former Yugoslavia (excl. Slovenia, Croatia), Albania	530,9	533,3	534,1	24,1%	20,5%	36,6%	41,8%	0,459	0,232	2,77	3,31	33,0%	53,0%
France	536,3	537,2	536,9	11,0%	10,9%	65,9%	62,5%	0,065	0,048	3,58	3,57	86,6%	95,5%
Germany and Austria	535,6	536,0	535,5	17,2%	16,3%	49,5%	49,0%	0,144	0,043	3,36	3,20	90,1%	75,4%
Greece and Cyprus	532,4	535,2	534,5	22,9%	12,1%	39,4%	52,4%	0,282	0,074	3,50	3,35	84,2%	72,6%
Horn of Africa and Sudan	527,4	532,4	532,5	49,6%	26,0%	7,5%	35,7%	0,871	0,530	1,99	3,39	18,7%	5,2%
Hungary, Czech Rep., Slovakia, Slovakia, Croatia	532,8	537,0	535,9	24,7%	15,2%	37,1%	56,1%	0,169	0,105	2,96	3,53	83,1%	90,9%
Indian subcontinent excl. Pakistan	533,9	534,9	538,2	25,8%	16,5%	44,2%	50,1%	0,524	0,362	2,69	3,62	33,7%	79,3%
Indonesia	535,5	536,3	536,6	14,7%	11,0%	50,0%	56,2%	0,104	0,052	3,05	3,47	84,2%	91,4%
Israel	538,9	537,8	537,2	9,6%	9,0%	70,0%	65,0%	0,000	0,032	3,56	3,73	87,0%	96,8%
Italy and Malta	534,3	535,8	534,5	16,1%	16,0%	53,0%	52,3%	0,188	0,069	3,37	3,23	89,3%	64,1%
Japan	538,5	541,1	540,7	5,8%	6,6%	80,9%	81,3%	0,000	0,017	3,78	3,87	83,6%	133,6%
Morocco	527,8	529,8	532,4	43,3%	29,6%	17,6%	26,1%	0,919	0,594	2,15	3,07	13,8%	-3,3%
North Africa (excl. Morocco)	532,5	533,7	534,4	29,1%	20,3%	37,2%	41,3%	0,310	0,219	2,61	3,31	46,5%	27,1%
North America	537,9	538,2	536,7	9,4%	10,3%	68,4%	62,1%	0,025	0,018	3,76	3,56	93,3%	94,7%
Oceania	537,7	536,1	534,3	9,6%	13,2%	68,6%	52,0%	0,061	0,034	3,46	3,40	94,4%	82,4%
Pakistan	530,1	532,2	533,2	29,6%	20,0%	33,3%	42,7%	0,651	0,451	2,39	3,41	17,6%	50,3%
Philippines, Malaysia, Brunei and East Timor	533,0	536,0	536,7	17,9%	11,4%	38,8%	54,8%	0,131	0,104	2,82	3,55	76,9%	93,3%
Poland and the Baltic states	531,9	535,2	536,4	33,4%	16,0%	21,5%	47,2%	0,240	0,084	2,55	3,41	78,5%	89,6%
Portugal	528,0	532,8	533,8	37,3%	21,9%	19,0%	40,5%	0,594	0,161	2,55	3,35	64,3%	73,1%
South Korea, Taiwan, Hong Kong, Singapore	540,9	537,9	537,3	4,2%	8,5%	86,2%	65,9%	0,005	0,093	3,02	3,77	62,9%	104,6%
Southern Africa	536,0	537,3	536,6	10,6%	12,4%	56,3%	57,4%	0,039	0,026	3,48	3,60	89,8%	95,0%
Spain	533,8	535,2	534,4	21,9%	16,7%	41,4%	48,4%	0,195	0,072	3,35	3,32	85,2%	71,5%
Suriname	527,6	531,6	532,2	36,3%	22,7%	19,5%	34,2%	0,241	0,110	2,79	3,23	40,2%	28,7%
Thailand, Indochina and Myanmar	531,4	535,9	534,9	32,1%	11,3%	25,2%	56,1%	0,339	0,286	2,37	3,52	45,7%	80,2%
Turkey	527,9	528,8	531,2	40,6%	31,0%	18,7%	24,1%	0,741	0,511	2,08	3,04	22,4%	27,1%
UK and Ireland	537,4	536,6	536,2	11,1%	12,5%	64,5%	54,5%	0,033	0,031	3,29	3,47	90,4%	91,3%
West Africa	528,7	531,9	531,5	45,3%	26,2%	17,4%	35,0%	0,602	0,386	2,19	3,14	43,8%	14,6%

10 Immigration and ageing: the demographic dimension

By Jan van de Beek

10.1 Introduction

From time to time, in the public discourse it is argued that immigration could be a solution to population ageing.[405] This section analyses the extent to which immigration is a fruitful approach to the ageing problem. It is good to note in advance that immigration could be a solution to ageing in two ways:

1. Immigration could reduce demographic pressures;
2. Immigration could help make the costs of population ageing more bearable.

For the first point it should be noted that 'ageing' can be measured in different ways. A distinction is often made between grey pressure, green pressure and total demographic pressure. According to the definition of Statistics Netherlands[406], the grey pressure is the ratio between the number of people over 65 and the number of people aged 20 to 65. The green pressure is the ratio between the number of young people aged 0 to 20 years and the number of people aged 20 to 65 years. The basic idea is that the 20 to 65 age group should provide the means to provide the dependent 'green' and 'grey' groups with things such as education, retirement pensions and health care. The total demographic pressure is the ratio between the elderly (65+) plus young people (up to 20 years) on the one hand and working people (20 to 65 years) on the other. In fact, this indicates the pressure on people in the working life phase to support the youth and the retired. The effect of immigration on these three forms of demographic pressure can be directly calculated using a demographic model.

The second point above is about whether immigrants can make a net contribution of such a magnitude as to help offset the costs of population ageing. It should be noted in advance that this can logically never be the case for a large number of the groups of immigrants studied above because these groups make a neutral or negative net contribution. However, there are a number of origin groups that perform above average and for them, the next chapter examines to what extent their arrival could provide a structural solution to the costs of population ageing.

10.2 Existing literature

Immigration is an important demographic factor for many countries, as are births and deaths. Immigration has a direct effect on population size and can also change the age structure and the ratio between the sexes. In addition, immigration can also have an indirect long-term effect, as the fertility of immigrants can differ from that of current residents. It is partly for these reasons that immigration has repeatedly been suggested in the literature as a remedy for ageing.[407]

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[405] Examples include this plea by Jeroen Smit in a television column, *Buitenhof TV*. (2017, 19 March) *Schuim en as*, retrieved 22-12-2022 from: https://www.npostart.nl/schuim-as-jeroen-smit/19-03-2017/POMS_VPRO_7895862) and an opinion article by former Prime Minister Ruud Lubbers and emeritus professor Van Seters in the *NRC* (2017, 7 August), retrieved 22-12-2022 from: https://www.nrc.nl/nieuws/2017/08/07/neem-25000-vluchtelingen-per-jaar-op-12417747-a1569162

[406] Statistics Netherlands, *Begrippen*, retrieved 15-12-2020 from: https://www.cbs.nl/nl-nl/onze-diensten/methoden/begrippen/grijze-druk

[407] This section is partly a revised version of §3.7.2 in Van de Beek, J. H. (2010)

Immigration is generally not seen as a realistic solution to the *population ageing itself*. To see this, it must be realized that population ageing generally has a one-off and a structural component.[408] The one-off component is the fact that in many countries there have been a number of relatively 'large generations' in the past. In most (Western) countries, this had two causes. The first of which was the baby boom that occurred after the Second World War. In addition, many countries went through a demographic transition, moving from high births and high mortality, through high births and low mortality, to low births and low mortality. The structural component is that in many Western countries fertility has fallen below the replacement level of about 2.1 children per woman. As a result, each generation is smaller than the previous one, a phenomenon called dejuvenation. The incidental component does not need a solution because the large generations formed in the past disappear due to death.[409] Any sustainable solution to the population ageing will therefore have to be a solution for dejuvenation.

In principle, there are two ways to resolve dejuvination through immigration.[410] First, the *dejuvination itself* can be solved with an immigration policy that is selective with regard to the fertility of immigrants. The fertility of the immigrants must then be so high that the average fertility of immigrants and residents together is at the replacement level. If the residents keep their (low) fertility constant and immigrants keep their (high) fertility constant, it is theoretically possible to allow exactly as many girls and women of childbearing age among the immigrants that the dejuvination is structurally resolved with a one-off wave of immigration. However, empirical research[411] suggests that immigrants adapt their fertility in a few generations to the (low) fertility of current residents.[412] This is also what the Statistics Netherlands figures show.[413]

Second, the *demographic consequences* of dejuvination can be neutralized by pursuing an immigration policy that is so selective with regard to the age of immigrants that the ratio between people of retirement age and people of working age remains constant. The disadvantage of this solution is that a continuous new influx of immigrants is then required because the underlying problem of low fertility is not solved. The result is rapid population growth.

In some cases, huge numbers of immigrants are needed to keep the grey pressure constant. In the year 2000, the United Nations published a calculation for the (extreme) case of South Korea that constant grey pressure would require so many immigrants – 94 million per year – that the population of that country would be 6.2 billion inhabitants in 2050. This would make the population of South Korea

[408] Compare to McDonald, P. (2000)
[409] However, if the incidental component is to be resolved with immigration, then all generations following the 'large generations' must be brought to the same size by immigration, *ad infinitum*.
[410] In our discussion we largely ignore the normative aspects.
[411] Zie Mayer, J., & Riphahn, R. T. (2000) en Nijkamp, P., & Spiess, K. (1993)
[412] In addition, one may wonder whether this (theoretical) solution is desirable from an integration point of view, because then immigrants are assumed to be permanently unable to adapt to the host society on one of the most essential points of human existence – reproduction. This certainly also seems undesirable from an economic point of view, given the importance of, for example, mixed relationships to the socio-economic integration of immigrants and their children (see §5.4 and §9.11).
[413] See, for example, Statistics Netherlands StatLine, *Geboorte; vruchtbaarheid, migratieachtergrond en generatie moeder*, retrieved 1-1-2020 from: https://opendata.cbs.nl/statline/#/CBS/nl/dataset/83307NED/table?dl=406DB

roughly equal to the *world population at that time*. In practice, it would mean that the vast majority of the world's population would have to move to South Korea.[414]

> "In order to keep the ratio of the working-age population to the population aged 65 years or older at its 1995 level of 12.6, it would be necessary to have a total of 5.1 billion immigrants from 1995 through 2050, or an average of 94 million per year. … Under this scenario, the total population of the country is projected to be 6.2 billion in 2050, of which over 99 per cent would be post-1995 immigrants and their descendants."[415]

Substantial immigration will also be required for the countries of the European Union to keep the grey pressure constant at the 1995 level.[416] Population growth will also continue indefinitely. Projections for Great Britain come to 100 million inhabitants in 2030, 200 million in 2070 and 300 million in 2090.[417] It goes without saying that such a population growth poses much greater problems than the population ageing itself. Moreover, it is a solution that, with regard to many European welfare states, ignores the fact that there is already a large unused labour reserve, including many immigrants.[418]

Calculations for the Netherlands show the same picture. For example, De Beer[419] calculated that an migration balance of half a million persons per year is needed to keep the population ageing at the 1998 level in 2040 (13.5% over the age of 65). In that scenario, the population will grow to 43 million people in 2040. Van Imhoff & Van Nimwegen[420], following the calculations of the United Nations, calculated a population of 109 million in the year 2100.[421]

10.3 Calculation for the Netherlands

The current study recalculated how many immigrants would be needed to keep the grey pressure in the Netherlands constant. In 2019 the grey pressure was 32.6%.[422] In other words: for every three people in the age category 20 to 65, there was about one person over 65. According to the Statistics Netherlands forecast for 2019, this will deteriorate to a ratio of about two to one.[423]

However, a complicating factor in the Dutch case is that the grey pressure based on the age categories 20-65 and 65-plus is actually no longer adequate. After all, the state pension (AOW) age is gradually being raised to around 70 in the Netherlands. That is why the calculation in this section is based on the grey pressure at an AOW age of 70, i.e. the grey pressure is calculated as the ratio between the number

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[414] Incidentally, the UN uses the ratio with people in the age category 15 to 65 years to calculate the grey pressure.
[415] United Nations (2000), pg. 60
[416] An average of 12.7 million per year with the population of the European Union growing to 1.2 billion in 2050, of which about 75% are immigrants and their descendants, see United Nations (2000), p. 91
[417] Coleman, D. A. (2002), blz. 587
[418] Coleman, D. A. (1992)
[419] De Beer, J. (1996), blz. 9
[420] Van Imhoff, E., & Van Nimwegen, N. (2000)
[421] Also compare Cruijsen, H. (1990)
[422] Grey pressure 32.6%, green pressure 37.3%, total demographic pressure 69.9%. Statistics Netherlands StatLine. (2020, 15 December). *Bevolking, huishoudens en bevolkingsontwikkeling; vanaf 1899*, retrieved 22-12-2022 from: https://opendata.cbs.nl/statline/#/CBS/nl/dataset/37556/table?dl=4067E
[423] Grey pressure 47.2%, green pressure 38.9%, total demographic pressure 86.1%. Statistics Netherlands StatLine. (2020, 15 December).
Prognose bevolking; kerncijfers, 2019-2060, retrieved 22-12-2022 from: https://opendata.cbs.nl/statline/#/CBS/nl/dataset/84645NED/table?dl=2E603

of people over 70 (for short 'over-70s') and the number of people aged 20 to 70 (for short '20-70-year-olds'). Immigration has been calculated so that the ratio between over-70s and 20-70-year-olds remains constant at 21.3%, the 2020 level.

A demographic model has been built to simulate the number of immigrants that will be needed until 2100 to keep the population ageing at the level of 2020. In this – following the UN's calculation mentioned in §10.2 – two groups are distinguished. The first group is formed by all Dutch residents – i.e. of all migration backgrounds – residing in the Netherlands on 1 January 2020 and their descendants born from 2020 onwards. The second group is formed by post-2020 immigrants and their descendants. Post-2020 immigrants refers to immigrants who immigrated from 1 January 2020 onwards.[424]

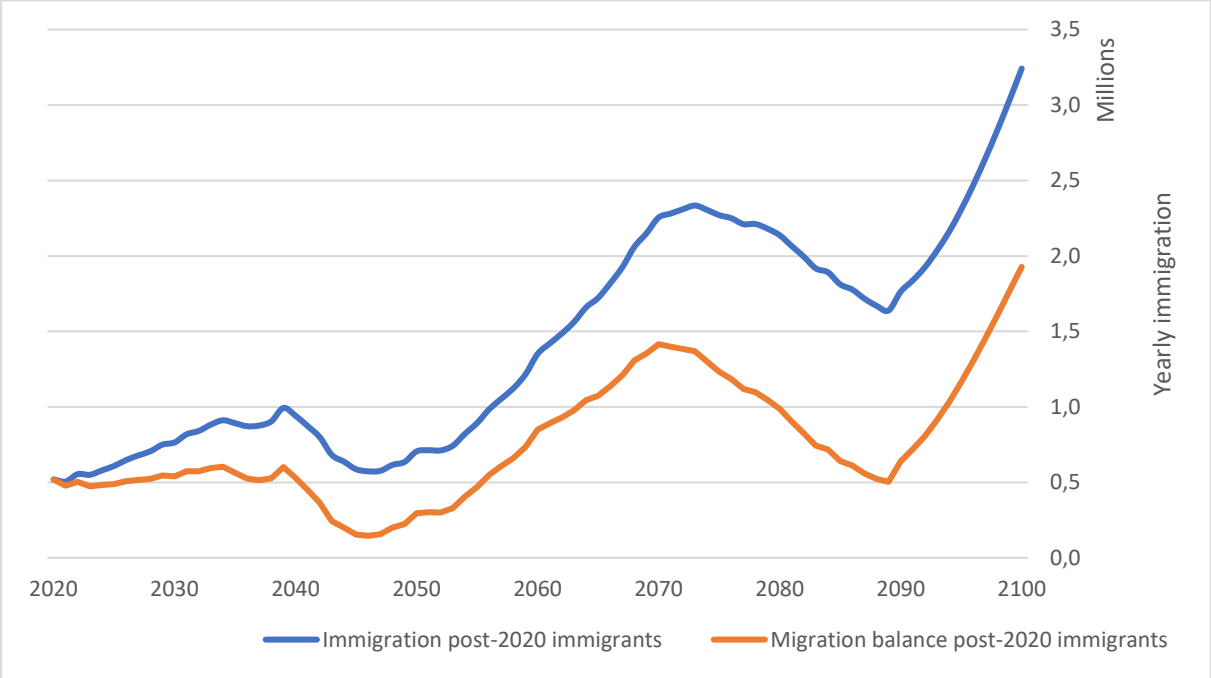

Figure 10.1 Required yearly immigration (immigration and migration balance) in a simulation where the ratio of over-70s to 20-70-year-olds is held constant at the 2020 level (21.3%). Our own calculation based on Statistics Netherlands StatLine data and Statistics Netherlands microdata.

Post-2020 immigrants are assumed to remigrate as often as first-generation immigrants who came to the Netherlands up to 2020[425]. It is also assumed that second-generation children up to the age of 18 always remigrate with their parents. For the sake of simplicity, it has been assumed that adults with a second-generation immigration background never migrate, just like people with a Dutch or third-generation immigration background. The number of children for all groups is constantly set at 1.7 children per woman. A number of other assumptions have been made to simplify the calculation and to tie in with the example of the United Nations described in §10.2. The most important of these is that from 2020 the aforementioned categories will remain separate.[426]

[424] Internally, the model also calculates the categories of persons with Dutch background and persons with first, second and third generation migration background, according to CBS definitions, see the Glossary.
[425] For the exact calculation of remigration probabilities, see the Technical Appendix.
[426] The cited quotation from the United Nations speaks of 'immigrants and their descendants' and in connection with this, the effect of 'mixed relationships' between residents residing in the Netherlands on 1 January 2020

The results of this calculation are illustrated in Figure 10.1, which shows the immigration required to keep the ratio of over-70s to 20-70-year-olds constant at 21.3%. It can be seen that annual immigration will rise in waves from over half a million in 2020 to over three million by the end of the century. Emigration is of course also considerable, because the majority of the immigrants eventually leave again. Nevertheless, the resulting migration balance (immigration minus emigration) amounts to two million per year by the year 2100. In this type of calculation, the migration balance is a fairly constant factor: with a given population pyramid and defined assumptions about the number of children per woman, the required migration balance is more or less fixed. In contrast, the annual number of required immigrants is highly dependent on remigration probabilities.

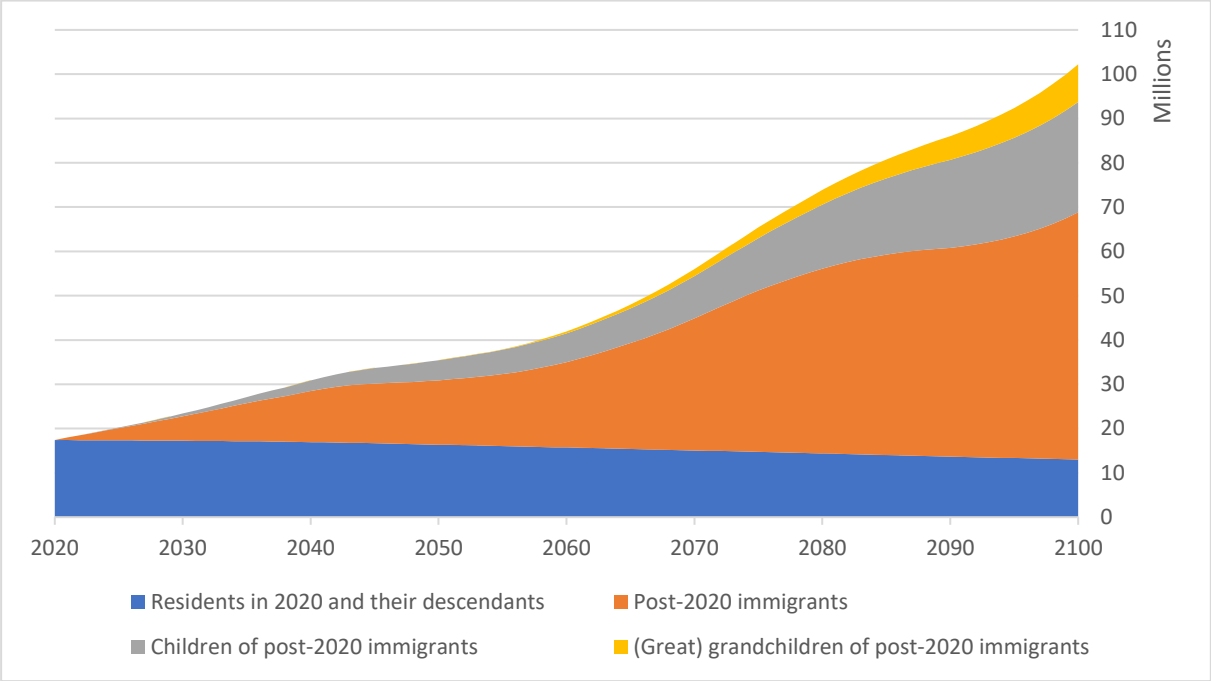

Figure 10.2 Population composition in a simulation where the ratio of over-70s to 20-70-year-olds is held constant at the 2020 level (21.3%) through immigration. Our own calculation based on Statistics Netherlands StatLine data and Statistics Netherlands microdata.

Such massive immigration has far-reaching consequences for population growth (Figure 10.2). The total population will rise to over 100 million people in 2100. Residents living in the Netherlands on 1 January 2020 and their descendants (the blue area) will have shrunk in size from about 17.5 million in 2020 to about 13 million in 2100 due to the low fertility rate of 1.7. About 90% of the population will then be post-2020 immigrants and their descendants (a total of 89 million). To clarify the share of first-generation immigrants in the total, the latter group has been further subdivided into post-2020 immigrants (56 million, orange), children of post-2020 immigrants (25 million, grey) and (great) grandchildren of post-2020 immigrants (8-9 million, yellow).

and the post-2020 immigrants and their descendants has not been included. Moreover, the calculation would be complicated because it is difficult to estimate the proportion of mixed relationships when the share of post-2020 immigrants increases as fast as it does in these simulations. Furthermore, it has been assumed for simplicity that in post-2020 immigrants, 2nd generation children always have two 1st generation parents, 3rd generation children always have two 2nd generation parents, and so on. None of this implies implicit approval or disapproval of mixed relationships. For more details see the Technical Appendix.

It is clear that keeping the population ageing constant leads to extreme population growth. Incidentally, population growth will accelerate after 2100 to about one billion inhabitants in the year 2200. By then, an annual migration balance of 13 million people is needed to keep the ratio of over-70s to 20-70-year-olds constant, and 99% of the population consists of immigrants and their descendants.

If the grey pressure remains constant at a state pension age of 65, the 100 million population limit will be crossed around the year 2110. Assuming that the overall demographic pressure (in this case, the ratio of 0-20-year-olds and over-70s on the one hand and 20-70-year-olds on the other) is kept constant does not help either: in that scenario, the 100-million-population limit is already passed around the year 2080.

If the ratio between over-70s and 20-70-year-olds is kept constant at 2020-level through immigration, the Dutch population will grow to 100 million inhabitants at the end of the century and a billion by the year 2200. Immigration is therefore not a realistic solution to population ageing. The dejuvenation caused by the low number of children and the increased life expectancy has led to a structural change in the balance between the generations. Mass immigration does not solve this underlying problem either. As in a pyramid scheme, increasing numbers of new immigrants are needed to keep the population ageing constant. It especially does not work because the underlying problem of the dejuvination is not structurally solved and that cannot be reversed with immigration without accepting extreme population growth. ↲

11 Immigration and ageing: the financial-economic perspective

By Hans Roodenburg, §11.3 by Hans Roodenburg and Jan van de Beek

11.1 Introduction

"We need immigrants to pay our pensions in the future", or words to that effect, indicate a persistent misunderstanding that keeps popping up in the public debate.

The population ageing in the Netherlands and neighbouring countries means that the number of pensioners is increasing in proportion to the number of people working. In other words, the burden (expenditure) for the collective sector in relation to the support base (basis for taxes and premiums) is increasing. This creates a financial problem for the public sector.

Can immigration help solve this problem? In Chapter 10 this issue has been viewed from a purely demographic perspective. What happens if we try to correct the deteriorating age distribution of the population by admitting more immigrants? Because the immigrants are also ageing, we need more and more immigrants and we end up in a kind of pyramid scheme with an exploding population growth as a result. That is why this form of 'demographic engineering' does not appear to be a viable path.[427]

But we can also look at the problem from a financial-economic perspective. Existing research offers starting points for this.

11.2 Nature and extent of the financial problem

The costs of the population ageing relate to healthcare expenditures and pensions. The link between healthcare costs and population ageing is evident. On average, healthcare costs are highest in the final stage of life (see Figure 8.17). Population ageing implies relatively more elderly people and therefore higher healthcare costs. With regard to pensions, things are not as clear as it appears at first sight. The Netherlands has a mixed pension system. The basic pension, the AOW, is financed by a pay-as-you-go system; the current workers pay the AOW for the current pensioners. In such a system, public finances are negatively affected by population ageing.[428] However, the supplementary pensions, both collective and individual, fall outside the government sphere and are funded. Therefore, they have been saved for and in principle these pensions are not affected by population ageing. Nevertheless, in an ageing population, supplementary pensions have an effect on public finances, in a positive sense. Because of the so-called 'reversal rule' (contributions are tax deductible, benefits are taxed), the government has a substantial claim on those pensions. However, the supplementary pensions, and therefore also this claim, are sensitive to the interest rate policy of the central bank and to movements in the financial markets.

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[427] In addition to the issue of the affordability of pensions, another frequently heard statement is that ageing is leading to shortages in the labour market, and that we need immigrants to make up for those shortages. This policy response can be regarded as a manifestation of the pyramid scheme mentioned here, with all the associated risks (see Chapter 10). Incidentally, forces that restore balance are active in the labour market (particularly through wages and choice of study) that can solve the shortages, albeit with a delay. Although immigration on a large scale is therefore not an option, in certain cases, especially in the case of unfillable vacancies in vital sectors such as healthcare, selective, demand-driven labour immigration may offer a solution (See also Roodenburg, H., R. Euwals & H. ter Rele (2003), pg. 91-92)

[428] This applies insofar as the ageing population is the result of the post-war baby boom and of the declining birth rate. A stronger increase in life expectancy than anticipated, however, has a negative effect on supplementary pensions.

In 2000, the CPB Netherlands Bureau for Economic Policy Analysis (CPB) published a first exploration of the consequences of population ageing for Dutch public finances under the title *Ageing in the Netherlands*.[429] The so-called 'sustainability gap' (in Dutch: *houdbaarheidstekort*) was estimated at 0.7% of the gross national product (GDP). In other words, a permanent increase in taxes by this percentage of GDP would be necessary to make public finances sustainable in the long term.[430] Naturally, according to the report, other measures could also have the same effect, such as an increase in the retirement age, promotion of labour participation and cutbacks in healthcare.

Compared to our neighbouring countries, the negative effect of population ageing on public finances is limited. In the first place, from a purely demographic point of view, the Netherlands is ageing less strongly than those countries.[431] And secondly, the Dutch pension system is relatively 'ageing resistant' compared to countries such as Germany, France and Italy, which have barely saved for their pensions.

This type of foresight study concerns long-term developments, which by their nature are very uncertain. And new information is constantly becoming available that can shed a different light on these future developments. That is why the CPB periodically comes up with new calculations about the effect of the population ageing on public finances.

An updated calculation from 2006[432] yields a higher figure for the sustainability gap of 2½% of GDP[433], rounded off. This higher figure is mainly explained by the deteriorated position of the pension funds as a result of falling share prices and low interest rates.[434] But other factors, such as an assumed slower growth in the labour participation of women, also play a role.[435]

The following CPB population ageing study dates from 2010.[436] The short summary states:

> "The required adjustment, the sustainability gap, has been calculated at 4½% of GDP. This deficit is 1½% of GDP larger than in the CPB study from 2006, due to an increase in life expectancy and the impact of the credit crisis. The government is faced with the choice of how to make its budget sustainable, through reductions or increased burdens, immediately or in the future."[437]

The government is therefore implicitly told that policy measures to eliminate the sustainability gap and thus make public finances ageing-proof are inevitable. In the years that followed, government policy was shaped in this direction. Increasing the state pension age, cutbacks in health care and tax increases (such as limitation of mortgage interest relief and higher VAT rates) have indeed created a prospect of sustainable government finances. This can at least be concluded from the ageing study published by the CPB in 2014 under the optimistic title *Minder zorg om vergrijzing* (Less worry about ageing). [438] The study even mentions a sustainability surplus of 0.4% of GDP.[439]

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[429] Van Ewijk, C. et al. (2000)
[430] For a definition of the term 'sustainability' see Van Ewijk, C. et al. (2000), pg. 24
[431] Van Ewijk, C. et al. (2000), pg. 16-17
[432] Van Ewijk, C. et al. (2006)
[433] Van Ewijk, C. et al. (2006), pg. 28
[434] Van Ewijk, C. et al. (2006), pg. 27
[435] Van Ewijk, C. et al. (2006), Table 5.8 on pg. 101
[436] Van der Horst, A. et al. (2010)
[437] Van der Horst, A. et al. (2010), pg. 3
[438] Smid, B. et al. (2014)
[439] Smid, B. et al. (2014), pg. 11

In the population ageing study by the CPB from 2019, as the title *Zorgen om morgen* (Concerns about tomorrow) indicates, there is a less optimistic outlook for the future.[440] The sustainability gap is 1.6% of GDP.[441] [442] Tax increases or cutbacks of this magnitude are needed to make public finances future-proof. The difference with the 2014 study is explained by the CPB as follows. Since 2014, the Pension Agreement and the tax cuts from the 2019 Budget Memorandum have made the situation worse. Other changes also have a downward effect on the sustainability balance, such as a different estimate of future healthcare expenditures and realizations, including the revision of the National Accounts. All this is only partly offset by the upward revision in the labour supply estimate.

11.3 Immigration as a policy option?

By Hans Roodenburg and Jan van de Beek

The measures taken in previous years to reduce the sustainability gap are the result of political choices, and of course other cutbacks and tax increases are also conceivable that would have the same effect. However, cutbacks and tax increases are generally experienced as painful by those involved. Couldn't we just bring in more immigrants to ease the pain?

In the CPB population ageing study from 2000,[443] immigration is considered as a policy option. Not only from a purely demographic point of view, whereby the previously mentioned draconian effects on the population size are discussed, but also from a financial and economic point of view:

> "it is questionable whether it [immigration] also contributes to more sustainable public finances. If activity rates of immigrants were equal to those of natives, immigration might help to alleviate the ageing problem. However, immigrants from Third World countries tend to display much lower activity rates and a much higher dependency on benefits as compared to natives. So, immigration might well aggravate rather than alleviate the ageing problem."[444]

Not a beckoning prospect, but a reason for further investigation.

In 2003, the CPB published the first comprehensive study of the economic effects of immigration in the Netherlands under the title *Immigration and the Dutch Economy*.[445] Among other things, the labour market performance and benefit dependency of immigrants are examined in more detail. Three types of immigrants are distinguished, namely immigrants with the characteristics[446] of:

1. the non-Western immigrant population in the Netherlands (average)
2. the population of the Netherlands (average)
3. a hypothetical 'high-performing' immigrant[447]

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[440] CPB (2019)
[441] CPB (2019)
[442] The latest update by the CPB of November 2020 results in a sustainability gap of 2.4% of GDP, see CPB, *Actualisatie Verkenning middellange termijn (2022-2025)*, retrieved 10-1-2021 from: https://www.cpb.nl/actualisatie-middellangetermijnverkenning-2022-2025-november-2020#downloads
[443] Van Ewijk, C. et al. (2000)
[444] Van Ewijk, C. et al. (2000), pg. 70
[445] Roodenburg, H., R. Euwals & H. ter Rele (2003)
[446] In terms of labour market performance and benefit dependency.
[447] With a labour participation rate that is 10% higher, a benefit dependency that is 20% lower, and an income that is 25% higher than the Dutch average (see footnote 13, Table 4.1 on pg. 66 and Table 4.2 on pg. 68)

In summary, the results are as follows:

> "It turns out that public finances improve only if the economic performance of immigrants at least equals that of the average Dutch resident. Even in this case, however, the alleviating effect is marginal. A substantial improvement is achieved only if the immigrants are of the 'highly performing' type."[448]

With regard to immigration, the only option that, on the face of it, can make a substantial contribution to sustainable public finances is to admit more 'high-performing' immigrants. But is this also a realistic option? How could we attract such immigrants to our country? The Netherlands has a lenient scheme for highly skilled immigrants[449] and the question is how much leniency there is left. In any case, the immigrants who manage to reach the European Union via the Mediterranean and other routes, unsolicited and often using the asylum channel, offer no solution. This group mainly consists of people who lack the qualifications necessary to be successful in our labour market (see also Chapter 4), and thus a more flexible admission policy for this group would be counterproductive.

But suppose it were possible to bring in enough 'high performers', how effective is this policy option? If we had started from the year 2001 with an annual net inflow (= immigration - remigration) of 0.05% of the population, which amounts to 8 to 9,000 'high performers', then the sustainability gap would have been reduced by 0.22% of GDP[450]. Including natural growth, the Dutch population, if this policy were to be maintained, would have increased by 0.8 million souls by 2060.[451] For example, if the goal would be to reduce the short-term sustainability by 2½% of GDP[452] through this type of immigration, the aforementioned demographic figures could be multiplied by more than a factor of 10, resulting in approximately 100,000 'high-performing' immigrants per year and a population increase after 60 years (in 2060)[453] of 8 million inhabitants. For the latter year, Statistics Netherlands provides a population forecast of 19.8 million, against 17.4 million in 2020.[454] Together with the above-mentioned 8 million extra inhabitants, the population of the Netherlands in 2060 would therefore amount to approximately 28 million. The magnitude of these demographic effects raises doubts as to whether the absorption capacity of the Netherlands will be large enough.

Thanks to the results in Chapter 6 of this report, we now have detailed empirical information to further define the term 'high-performing'. The figures on the net contribution to public finances per region of origin serve as a guideline in this respect. There are approximately 30 countries of which the first and second generation together make a positive net contribution, ranging from roughly €25,000 (Germany, Czech Republic, South Korea), €50,000 (India, Italy, Israel) to €200,000 (Japan, Anglo-Saxon and Scandinavian countries). If we were to succeed in getting an additional flow of labour immigrants from

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[448] Roodenburg, H., R. Euwals & H. ter Rele (2003), pg. 71-72

[449] Rijksoverheid, *Wanneer mag een kennismigrant in Nederland werken?*, retrieved 10-1-2021 from: https://www.rijksoverheid.nl/onderwerpen/buitenlandse-werknemers/vraag-en-antwoord/wanneer-mag-een-kennismigrant-in-nederland-werken

[450] Roodenburg, H., R. Euwals & H. ter Rele (2003), Table 4.4 on pg. 73

[451] For the demographic consequences of this scenario, see: Roodenburg, H., R. Euwals & H. ter Rele (2003), Table A.3.1 on pg. 119.

[452] The sustainability gap according to the 2006 population ageing study, see Van Ewijk, C. et al. (2006), pg. 28.

[453] 2060 is the end year of the CBS population forecast that was used for the CPB study. However, the number of extra inhabitants in the CPB calculation continues to increase after that year as a result of this immigration.

[454] See Statistics Netherlands, *Prognose: Bevolking blijft komende 50 jaar groeien*, retrieved 10-1-2021 from: https://www.cbs.nl/nl-nl/nieuws/2020/51/prognose-bevolking-blijft-komende-50-jaar-groeien

these countries from 2021 onwards, with an average net contribution of €100,000, an annual migration balance of 177,000 of these labour migrants would be sufficient to reduce the sustainability gap by 2½% of GDP. With an average number of children per woman of 1.7 and current remigration behaviour, this would lead to an additional population growth of 8.3 million people over the period 2020-2080. At least, if we assume that the inevitable family migrants are 'budget neutral'. Should there be such (implicit) selection on the net contribution of family migrants that it is, say, €80,000, the additional population growth up to the year 2080 would be over 7 million. Conversely, if there is no (implicit) selection on the net contribution of family migrants and they actually cost the treasury over the life cycle a net €80,000 – which is more in line with the current situation (see Table 6.1) – then the additional population growth up to 2080 would be over 10 million persons (see Technical Appendix for details). This further underlines the importance of selectivity in this type of labour migration policy.

Coping with the costs of population ageing through immigration not only leads to strong population growth, but also encounters the practical objection that the immigrants who now make the largest positive net contribution come from countries that are already experiencing severe population ageing or in this century will see severe population ageing [455], and often try to attract or retain highly educated people themselves. This explicitly also applies to a country such as India, where the grey pressure will increase to around 50% in the coming century.[456] Although 'high performers' can of course make a positive contribution to the Dutch economy and public finances, in view of the foregoing, a massive influx of such immigrants with the aim of making public finances ageing-proof does not seem to be a viable path.

The CPB concluded after its analysis of the effects of immigration on the public sector:

> "The results indicate that immigration cannot offer a major contribution to alleviate public finances, and thus to become a compensating factor for the rising costs for government due to the ageing of the population."[457]

In the literature consulted, there is no support for the notion that we "need immigrants to pay our pensions in the future" – at least for the Netherlands. Calculations based on the results of the CPB study from 2003 and the current study also show that immigration is not a realistic solution to this problem. ↲

[455] United Nations, *Department of Economic and Social Affairs, Population Division* (2019), File POP/13-B: Old-age dependency ratio 65+/(20-64) by region, subregion and country, 1950-2100 (ratio of population 65+ per 100 population 20-64)
[456] See previous note and compare to: Agarwal, A., L. Alyssa, E. Mitgang, S. Mohanty & D. E. Bloom (2016)
[457] Roodenburg, H., R. Euwals & H. ter Rele (2003), pg. 81

12 Discussion

12.1 Free immigration is incompatible with a welfare state

Open borders and a welfare state do not go together. In the words of Milton Friedman, the American Nobel prize winner in economic sciences: *You cannot simultaneously have free immigration and a welfare state*. Our welfare state has undergone the necessary austerity in recent years, but is still relatively generous internationally. In order to keep this up now, it is necessary to have a grip on the size and composition of the immigration. We cannot let in large numbers of potential heavy users of the arrangements of the welfare state without undermining the welfare state.

12.2 Is immigration to the Netherlands manageable?

What about the control we have over immigration to our country? Broadly speaking, we can only control immigration with the motives 'labour' and 'study' insofar as it originates from outside the EU. Immigration of EU residents for these motives is free.

Immigration with the motive 'asylum' is governed by an international legal structure, the core of which is the UN Refugee Convention (1951) and its supplement known as the New York Protocol (1967).[458] [459] In practice, this system amounts to an open-ended arrangement. Thus, there is no upper limit. Any foreigner who is able to reach the territory of the EU has the right to apply[460] for asylum, and anyone who meets the criteria must be admitted as a refugee[461]. So here we speak of free – not to be confused with *voluntary* – immigration.

Immigration under the 'family' motive is closely related to that under the other three motives. International rules apply to this, which give the host country little discretion.

Taking into account the current composition according to origin and motive, it can be stated that, within the existing legal framework, the majority of immigration to the Netherlands escapes adjustment, in terms of size and composition, by the authorities. Thus, there is *de facto* free immigration and, as noted earlier, this is at odds with the welfare state.

12.3 Interpretation of the research results

The tension between uncontrolled immigration on the one hand and a welfare state on the other requires an immigration policy that takes into account the consequences for public finances in the considerations to be made – contrary to what has been the case up to now. The findings in the present report provide leads for realizing this approach. Before discussing this in more detail, it is useful to

[458] The UN Refugee Convention was initially intended for refugee flows resulting from the Second World War. Therefore, the operation was limited to persons who had become refugees as a result of events that had taken place before 1 January 1951. This implies not only a limitation in time, but also a de facto limitation to refugees from Europe. These restrictions were eliminated in 1967 with the adoption of the New York Protocol.

[459] Other elements of the legal structure are the European Convention on Human Rights (ECHR), EU law and case law on the Convention and EU legislation and regulations.

[460] Anyone who applies for asylum in the Netherlands can be sent back to the country of arrival in the EU, but in practice little of this is achieved. Moreover, the person concerned has usually passed several safe countries in transit to the Netherlands, but this does not appear to be a reason to refuse admission to the asylum procedure in the Netherlands.

[461] Incidentally, a substantial proportion of those who do not meet the criteria, but refuse to leave the country, will eventually be admitted on the basis of humanitarian reasons, an ex officio decision (previously discretionary power) due to a distressing situation, or general amnesty.

recapitulate how the results of this report should be interpreted in terms of the so-called net contribution of immigrants to public finances.

The net contribution of an immigrant to public finances is equal to the taxes and premiums paid minus the allocated public expenditure (for healthcare, education, benefits, etc.) during the remaining life of the immigrant.[462] This calculation can be either positive or negative, but for the realized and expected immigration as a whole, it is negative on average.

An immigrant who makes a negative net contribution thus receives a claim on the treasury that will be honoured for the rest of his life.[463] The expenditure that the government has to make on behalf of the immigrant does not immediately become visible in its full extent, but also weighs on the budget years later. As a result, with a constantly high influx of immigrants, the budget will be used up further and further. If this is not taken into account – as is currently the case – there is a risk of underestimating the lurking consequences.

12.4 Starting points for policy

The implications for public finances, however, hardly play a role in immigration policy decisions. This may change if use is made of the types of calculations presented in this report.

First of all, the results presented provide starting points for the admission policy for immigrants from outside the EU with the motives 'labour' and 'study'. This can relate to the size of these types of immigration flows as well as to the selection of the immigrants in question. More concretely, it concerns a training of at least higher professional education level or the equivalent knowledge and skills.

Other examples include cost estimates for concrete policy proposals such as a pardon scheme, the number of invited refugees, approval of new EU rules, a quota of asylum seekers allocated by the EU, the required compensation for an above-average quota, *et cetera*.

There are also starting points for integration policy, which must respond to the consequences of immigration. A study of the net contributions to our government, as described in this report, gives a good indication of the socio-economic position of various immigrant groups. Not only does the integration of the first generation require attention, but also that of the second and third generations. Disadvantages appear to be persistent and often persist into the second and third generation. Good school performance and labour market position are the key to self-reliance.

But a more structural approach is also possible. Examples include monitoring the costs of current immigration flows and keeping an account of the outstanding claims that immigrants have on the treasury.

This brings us to the value of periodic surveys of net contributions. Since 2003, the Dutch government has not published any data on immigrants' net contributions to the treasury. We can only guess at the reasons for this. Hopefully, this research will make it clear that these data are necessary for the foundation of policy and for insight into future government spending. In our opinion, the report fits in well

[462] This is based on the existing arrangements and future changes to them that have already been decided.
[463] The claim only expires upon death or remigration; in the latter case, incidentally, not always in full, due to the possibility of exporting benefits. The mortality and remigration probabilities of immigrants are included in the calculations.

with the 2050 Population Survey, into the consequences of changes in the size and composition of the population in the Netherlands halfway through this century.[464]

12.5 Perspective

Immigrants who on average make a large negative net contribution to public finances are mainly found among those who exercise the right to asylum, especially if they come from Africa and the Middle East. The latest UN population forecast shows that the total population in these areas will triple from 1.6 billion today to 4.7 billion by the end of this century. It is not implausible that the immigration potential will at least keep pace with this. Immigration pressure, particularly on the welfare states in Northwestern Europe, will therefore increase to an unprecedented degree.[465] This raises the question of whether enforcement of the open-ended arrangement[466], which is enshrined in the existing legal framework, is tenable under these circumstances.

In a recent letter to the House of Representatives[467], the current cabinet has indicated how it views the existing legal framework. This letter contains the government's response to a report on an "exploration of the opportunity to investigate the question of whether, and if so how, the 1951 Refugee Convention can be updated in order to provide a sustainable legal framework for the international asylum policy of the future".[468]

With regard to cancellation or amendment of the Refugee Convention, the government states:

> "If an EU member state no longer wishes to act in accordance with the Refugee Convention and the Protocol, this also implies that the Treaty on the Functioning of the European Union and the Charter of Fundamental Rights of the European Union must be amended.
>
> …
>
> The above shows that the possibility of terminating the Refugee Convention is prohibitive for an EU member state such as the Netherlands. It should also be clear that revision requires an enormous diplomatic effort, the outcome of which is uncertain. However, for the cabinet the most important outcome of the foresight study is that, if the Refugee Convention would not exist (anymore), there would be no change in the (legal) obligations towards asylum seekers and refugees that the Netherlands is bound by on the basis of EU regulations and the ECHR."[469]

All this leads the government to the following conclusion:

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[464] The survey of the size and composition of the population in the Netherlands in 2050, following the motion of Dijkhoff et al. dated 21 September 2018

[465] See Chapter 7 for immigration scenarios up to 2040 and the associated implications for public finances.

[466] This open-ended arrangement applies to immigrants with the motive 'asylum'. It should be noted here that asylum immigrants also have the right to family formation and reunification.

[467] Letter from State Secretary for Justice and Security Ankie Broekers-Knol to the President of the House of Representatives of the States General of 3 July 2020, retrieved 27-4-2023 from: https://www.tweedekamer.nl/downloads/document?id=17dab5d2-9940-407a-b141-b76e67bcb52b&title=Onderzoek%20Vluchtelingenverdrag.doc

[468] Donner, J. P. H. & M. den Heijer (2020)

[469] Letter from State Secretary for Justice and Security Ankie Broekers-Knol to the President of the House of Representatives of the States General of 3 July 2020, retrieved 27-4-2023 from: https://www.tweedekamer.nl/downloads/document?id=17dab5d2-9940-407a-b141-b76e67bcb52b&title=Onderzoek%20Vluchtelingenverdrag.doc

> "In summary, the government establishes that with the Refugee Convention the right to request asylum and the prohibition of refoulement[470] are bindingly established by the contracting parties and that these also apply as starting points in the ECHR and the acquis communautaire. The cabinet considers it a great good that these principles have been safeguarded in this way and wishes to keep them."[471]

This despite this dark side of the current right of asylum:

> "At the same time, the cabinet has established that the facilities offered on the basis of asylum law are vulnerable to improper use. Immigrants who are not seeking asylum as well as human smugglers abuse this on a large scale."[472]

The cabinet therefore wants to maintain the existing legal framework for asylum immigration – despite abuse on a large scale.[473] The calculations in this report leave no doubt about what this means in the long term: increasing pressure on public finances and ultimately the end of the welfare state as we know it today. A choice for the current legal framework is therefore implicitly a choice against the welfare state.

[470] Refoulement = returning refugees to their country of origin if they fear persecution.
[471] Letter from State Secretary for Justice and Security Ankie Broekers-Knol to the President of the House of Representatives of the States General of 3 July 2020, retrieved 27-4-2023 from: https://www.tweedekamer.nl/downloads/document?id=17dab5d2-9940-407a-b141-b76e67bcb52b&title=Onderzoek%20Vluchtelingenverdrag.doc
[472] See previous footnote.
[473] Asylum immigration is the most burdensome immigration category for public finances. This does not alter the fact that the rules for other categories, in particular for family immigration, may also qualify for tightening.

References

Adema, Y., & van Tilburg, I. (2019), *Zorgen om Morgen*, Centraal Planbureau, Den Haag, retrieved 15-12-2020 from: https://www.cpb.nl/sites/default/files/omnidownload/CPB-Vergrijzingsstudie-2019-Zorgen-om-morgen.pdf

Agarwal, A., L. Alyssa, E. Mitgang, S. Mohanty & D. E. Bloom (2016), *Population Aging in India: Facts, Issues, and Options*, IZA Discussion Paper No. 10162, retrieved 15-12-2020 from: http://ftp.iza.org/dp10162.pdf

Beets, G. C. N. (2008), Einde vergrijzing in zicht, bevolkingskrimp nieuwe realiteit: een langetermijnvisie, *Demos: bulletin over bevolking en samenleving*, 24, retrieved 15-12-2020 from: https://pure.knaw.nl/portal/nl/publications/einde-vergrijzing-in-zicht-bevolkingskrimp-nieuwe-realiteit-een-l

Beugelsdijk, S., & Van Schaik, A. B. T. M. (2001), Cultuur en economie, retrieved 5-3-2022 from: https://repository.ubn.ru.nl/bitstream/handle/2066/148818/148818.pdf?sequence=1

Bolhaar, J., S. Kuijpers & A. Nibbelink, (2019), *De economische effecten van internationalisering in het hoger onderwijs* Centraal Plan Bureau, retrieved 15-12-2020 from: https://www.cpb.nl/sites/default/files/omnidownload/cpb-notitie-de-economische-effecten-van-internationalisering-in-het-hoger-onderwijs-en-mbo_0.pdf

Boonstra, O. W. A., Doorn, P. K., van Horik, M. P. M., van Maarseveen, J. G. S. J., & Oudhof, J. (2007), Twee eeuwen Nederland geteld: Onderzoek met de digitale Volks-, Beroeps-en Woningtellingen 1795-2001, *In DANS Symposium publicaties, 2*. DANS, Den Haag, retrieved 15-12-2020 from: https://knaw.nl/nl/actueel/publicaties/twee-eeuwen-nederland-geteld

Borjas, G. J. (1995), The economic benefits from immigration. *Journal of Economic Perspectives*, 9 (2), 3-22

Borjas, G. J. (1999), The economic analysis of immigration, in O. Ashenfelter & D. Card (editors), *Handbook of Labor Economics*, volume 3A, Chapter 28, North-Holland, Amsterdam

Boubtane, E., J. C. Dumont & C. Rault (2014), Immigration and economic growth in OECD countries,1986-2006, IZA Discussion Paper 8681 Oxford Economic Papers, *Oxford University Press*, vol. 68(2), 340-360, April 2016.

Brunow, S., P. Nijkamp & J. Poot (2015), The impact of international migration on economic growth in the global economy, in B. Chiswick & P. Miller (eds), *Handbook of International Migration, volume 1B*, Chapter 19, Elsevier, Amsterdam

Centraal Planbureau (2019), *Zorgen om morgen*, CPB Boek, Den Haag, retrieved 15-12-2020 from: https://www.cpb.nl/zorgen-om-morgen

Ciccone, A. & R. Hall (1996), Productivity and the density of economic activity, *American Economic Review*, 86 (1), 54-70

Cohen, J. (1988), *Statistical Power Analysis for the Behavioral Sciences* (2nd ed.), Lawrence Erlbaum Associates Publishers, Hillsdale (NJ)

Coleman, D. A. (1992), Does Europe Need Immigrants? Population and Work Force Projections, *International Migration Review*, 26 (2, Special Issue: The New Europe and International Migration), 413-461

Coleman, D. A. (2002), Replacement migration, or why everyone is going to have to live in Korea: A fable for our times from the United Nations, *Philosophical Transactions of the Royal Society B: Biological Sciences*, 357 (1420), 583-598

Coleman, D. A. (2006), Immigration and ethnic change in low-fertility countries: A third demographic transition, *Population and development review*, 401-446

Combes, P-P., G. Duranton & L. Gobillon (2012), The Costs of Agglomeration: Land Prices in French Cities, Bonn: IZA DP 7027; herziene versie in *Review of Economic Studies*, 2018

Commissie-Muntendam (1977), *Bevolking en welzijn in Nederland*, Rapport van de Staatscommissie Bevolkingsvraagstuk, Staatsuitgeverij, Den Haag

Cruijsen, H. (1990), Buitenlandse migratie kan ontgroening en vergrijzing niet tegenhouden, *Maandstatistiek van de Bevolking*, 40 (4), 10-11

De Beer, J. (1996), Immigratie kan vergrijzing niet tegenhouden, *Maandstatistiek van de Bevolking*, 46 (11), 9

De Giorgi, G. & M. Pellizzari (2009), Welfare migration in Europe, *Labour Economics*, 16 (4), 353-363

Delphiconsult (1995), *Goudmijn of Bodemloze Put? Over de kosten en opbrengsten van etnische minderheden voor de Nederlandse Staat*, Delphiconsult, Amsterdam

Dolado, J., A. Goria & A. Ichino (1994), Immigration, human capaital and growth in the host country: evidence from pooled country data, *Journal of Population Economics*, 7(2), 193-215

Epstein, G. S., & Gang, I. N. (2010), *Migration and culture*. Emerald Group Publishing Limited. retrieved 5-3-2022 from: https://www.econstor.eu/bitstream/10419/96033/1/635999250.pdf

Ermisch, J. (1987), Review of Theory of Population and Economic Growth by Julian L. Simon, *Population Studies*, 41 (1), 175-177

Euwals, R., J. Dagevos, M. Gijsberts & H. Roodenburg (2008), De arbeidsmarktpositie van Turken in Nederland en Duitsland, *TPEdigitaal*, jaargang 2(1)

Geelhoed, L. (1994), *Eindrapport van de heroverwegingsgroep 'Asielzoekersbeleid' (Begrotingsvoorbereiding 1995; deelrapport nr. 6)*, Ministerie van Financiën, Den Haag

Gijsberts, M., W. Huijnk & R. Vogels (red.) (2011), *Chinese Nederlanders: Van horeca naar hogeschool*, Sociaal en Cultureel Planbureau, Den Haag

Giulietti, C. (2014), The welfare magnet hypothesis and the welfare take-up of migrants, *IZA World of Labor*, June 2014, doi: 10.15185/izawol.37

Giulietti, C., M. Guzi, M. Kahanec, & K. Zimmermann (2013), Unemployment benefits and immigration: Evidence from the EU, *International Journal of Manpower*, 34 (1), 24–38

Hartog, J. (2011), Is de maat nou echt vol? *TPEdigitaal*, 5(4), 1-16

Hartog, J. (2018), Over meten van welbevinden, *TPEdigitaal*, 12 (1), 1-14

Hertogh, M. L. M., Peters, M. M. C. G., van der Zande, A. N., & de Graaf, G. (2019), *Ongemakkelijk onderzoek: Naar een betere balans in de relatie tussen WODC en beleid*, Den Haag: Onderzoekscommissie WODC II, retrieved 15-12-2020 from: https://www.rijksoverheid.nl/binaries/rijksoverheid/documenten/rapporten/2019/01/15/ongemakkelijk-onderzoek---rapport-commissie-wodc-ii/Rapport+Commissie+WODC+II.pdf

Hitzert, F. & van Wijk, M. (2019), *Arbeidsmigranten in Nederland*. Centraal Bureau voor de Statistiek, retrieved 25-6-2022 from: https://www.cbs.nl/nl-nl/longread/statistische-trends/2019/arbeidsmigranten-in-nederland

Hoogendoorn, S. & G. Romijn (2020), *Discontovoet voor de Nederlandse economie,* CPB-notitie, Centraal Planbureau, Den Haag, retrieved, 15-12-2020 from: https://www.cpb.nl/sites/default/files/omnidownload/CPB-Notitie-Discontovoet-voor-de-Nederlandse-economie.pdf

Hop, M., Van Boxtel, H. W., Bechger, T. & B. Hemker (2013), *Wetenschappelijke Verantwoording Cito Intelligentietest VO*. Arnhem: Cito. retrieved 3-1-2022 from: https://www.cito.nl/-/media/files/voortgezet-onderwijs/cito-wv-intelligentietest-vo.pdf?la=nl-nl&hash=09303AE1A4FA086CFCFE211EA880558CB47B1F69

Huijnk, W., Dagevos, J., Gijsberts, M., & Andriessen, I. (2015), *Werelden van verschil. Over de sociaal-culturele afstand en positie van migrantengroepen in Nederland*, Sociaal en Cultureel Planbureau, Den Haag

Jean, S., O. Causa, M. Jimenez & I. Wanner (2007), *Migration in OECD countries: Labour market impact and integration issues*, Economics Department Working Paper No. 562, OECD, Paris, retrieved 15-12-2020 from: https://files.eric.ed.gov/fulltext/ED504016.pdf

Jennissen, R. (2007), Allochtonen in het hoger onderwijs. *Demos, 22(7)*, 65-68. retrieved 5-3-2022 from: https://publ.nidi.nl/demos/2006/demos-22-07-jennissen.pdf

Jennissen, R. (2011), Arbeidsmigratie en de daarmee gepaard gaande gezinsmigratie naar Nederland: Een kwalitatieve toekomstverkenning. *TPEdigitaal, 5(4)*, 17-36, retrieved 25-6-2022 from: https://www.tpedigitaal.nl/sites/default/files/bestand/arbeidsmigratie_en_de_daarmee_gepaard_gaande_gezinsmigratie_naar_nederland.pdf

Jennissen, R., Bovens, M. & Engbersen, G. (2021), Clusteren op basis van cultuur: etno-linguïstische indelingen van herkomstlanden als alternatieven voor westers/niet-westers in integratieonderzoek WRR Working Paper nr. 48. retrieved 7-10-2021 from: https://www.wrr.nl/binaries/wrr/documenten/working-papers/2021/10/07/clusteren-op-basis-van-cultuur/WP048-Clusteren-op-basis-van-cultuur.pdf

Jennissen, R., Engbersen, G., Bokhorst, M., & Bovens, M. (2018), *De nieuwe verscheidenheid: Toenemende Diversiteit Naar Herkomst in Nederland*, Wetenschappelijke Raad voor het Regeringsbeleid, Den Haag, retrieved 15-12-2020 from: https://www.wrr.nl/publicaties/verkenningen/2018/05/29/de-nieuwe-verscheidenheid

Kahneman, D. & A. Krueger (2006), Developments in the measurement of subjective well-being, *The Journal of Economic Perspectives*, 20, 3-24

Krieger, T. & D. Meierrieks (2019), Population size and the size of government, CESifo Working Paper 7574

Lakeman, P. (1999), *Binnen zonder kloppen; Nederlandse immigratiepolitiek en de economische gevolgen*, Meulenhoff, Amsterdam

Lange, T. D. (2007), *Staat, markt en migrant: De regulering van arbeidsmigratie naar Nederland 1945-2006,* Boom Juridische Uitgevers, Den Haag

Leibfritz, W., P. O'Brian & J. Dumont (2003), *Effects of Immigration on Labour Markets and Government Budgets – An Overview*, CESifo Working Paper No. 874, Center for Economic Studies and Ifo Institute (CESifo), Munich

Lek, K. (2020), *Teacher nows best? On the (dis)advantages of Teacher Judgments and Test Results, and how to optimally combine them.* (PhD thesis) retrieved 3-1-2022 from: (https://www.cito.nl/-/media/files/kennisbank/psychometrie/proefschriften/cito_proefschrift_kimberley_lek_2020.pdf?la=nl-nl

Lek, K. (2021), Het schooladvies: hoe doe jij dat? Geef het voordeel van de twijfel. *JSW-magazine 2021 (10),* retrieved 21-4-2023 from: https://www.cito.nl/-/media/files/kennis-en-innovatie/2106_jsw_het-schooladvies-hoe-doe-jij-dat.pdf?la=nl-nl

Longhi, S., P. Nijkamp & J. Poot (2004), *A meta-analytic assessment of the effect of immigration on wages*, Population Studies Centre Discussion Paper No 47, University of Waikato, Population Studies Centre, Hamilton, New Zealand

Lucassen, J. M. W. G., & Penninx, R. (1995), *Nieuwkomers, nakomelingen, Nederlanders. Immigranten in Nederland 1550-1993*. (2e druk), Het Spinhuis, Amsterdam

Lucassen, L., Scheffer, P., & Hirsch Ballin, E. (2018), *Regie over migratie: Naar een strategische agenda*. https://www.wrr.nl/publicaties/publicaties/2018/06/19/regie-over-migratie-naar-een-strategische-agenda

Mayer, J., & Riphahn, R. T. (2000), Fertility assimilation of immigrants: Evidence from count data models, *Journal of Population Economics*, 13 (2), 241-261

McDonald, P. (2000), The Shape of an Australian Population Policy, *Australian Economic Review*, 33 (3), 272

Ministerie van Financiën (1988), *Rapport van de Heroverwegingsgroep "De positie van niet-Nederlanders in de Nederlandse stelsels van sociale en culturele voorzieningen" (Begrotingsvoorbereiding 1989, deelrapport nr. 3),* Ministerie van Financiën, Den Haag

National Academies of Sciences, Engineering, and Medicine (2016), *The economic and fiscal consequences of immigration.* National Academies Press, doi: 10.17226/23550, retrieved 24-12-2020 from: http://d279m997dpfwgl.cloudfront.net/wp/2016/09/0922_immigrant-economics-full-report.pdf

Nationale Bank van België (2020), The economic impact of immigration in Belgium, (*Economic Review, November 2020, Special edition*), retrieved 24-12-2020 from: https://www.nbb.be/doc/ts/publications/economicreview/2020/ecorev2020_special.pdf

Nicolaas, H. & A. Sprangers (2007), Buitenlandse migratie in Nederland 1795-2006: de invloed op de bevolkingssamenstelling, *Bevolkingstrends* 55 (4): 32-46, retrieved 24-12-2020 from: https://library.wur.nl/WebQuery/groenekennis/1866162

Nijkamp, P., & Spiess, K. (1993), *International Migration in Western Europe: Macro Trends in the Past, the Present and the Future*, Research Memorandum 1993-72, VU: Amsterdam

OECD (2013), The fiscal impact of immigration in OECD countries, in: International Migration Outlook 2013, OECD Publishing, Paris

Onderwijsinspectie (2017), *Staat van het Onderwijs 2015/2016 - Technisch rapport Gelijke kansen,* retrieved 15-12-2020 from: https://www.onderwijsinspectie.nl/onderwerpen/staat-van-het-onderwijs/documenten/rapporten/2017/04/12/technisch-rapport-gelijke-kansen

Ortega, F. & G. Peri (2009), *The causes and effects of international migrations: evidence from OECD countries 1980-2005*, Boston, Mass.: NBER Working Paper Series 14833

Pedersen, P., M. Pytlikova & N. Smith (2008), Selection and network effects: Migration flows into OECD countries 1990–2000, *European Economic Review* 52 (7), 1160–1186

Pettersson, T. (2007), Muslim immigrants in Western Europe: Persisting value differences or value adaptation?. In *Values and Perceptions of the Islamic and Middle Eastern Publics* (pp. 71-102). Palgrave Macmillan, New York.

Razin, A. & J. Wahba (2015), Welfare Magnet Hypothesis, Fiscal Burden, and Immigration Skill Selectivity, *Scandinavian Journal of Economics*, 117 (2), 369-402

Ringeling, A. (1989), Verboden beleidsalternatieven, In H. van de Braak (Ed.), *Taboe* (68-83), Ad Donker, Rotterdam

Romer, P. (1990), Endogenous technological change, *Journal of Political Economy*, 98, S71-S102

Roodenburg, H., Kreffer, G., Van de Beek, J. H. en Hartog, J. (2022), Immigratie en verzorgingsstaat, *TPEdigitaal, 16(3)*, 1-11, retrieved 5-8-2022 from: http://www.tpedigitaal.nl/sites/default/files/bestand/gehele-editie-163_0.pdf

Roodenburg, H., R. Euwals & H. ter Rele (2003), *Immigration and the Dutch Economy*, CPB, The Hague, retrieved 1-1-2021 from: https://www.cpb.nl/sites/default/files/publicaties/download/immigration-and-dutch-economy.pdf

SCP (1988), *Kosten van de aanwezigheid van etnische groepen in de periode 1987-2000*, ongepubliceerde notitie uitgebracht aan de Minister van Welzijn, Volksgezondheid en Cultuur

Smid, B., ter Rele, H., Boeters, S., & Draper, N. A. Nibbelink en B. Wouterse (2014), *Minder zorg om vergrijzing*, CPB-boek, Den Haag, retrieved 15-12-2020 from: https://www.cpb.nl/sites/default/files/publicaties/download/cpb-boek-12-minder-zorg-om-vergrijzing.pdf

Smith, J. P. & B. Edmonston (eds) (1997), *The new Americans: economic, demographic and fiscal effects of immigration*, National Academic Press, Washington

Steigenga, W. (1949), Bevolkingsvermeerdering en arbeidsvoorziening, *De Economist*, 97(1), 54-83

Te Nijenhuis, J., de Jong, M. J., Evers, A., & Van Der Flier, H. (2004), Are cognitive differences between immigrant and majority groups diminishing?. *European Journal of Personality, 18(5)*, 405-434.

Traag, T. (2012), *Early school leaving in the Netherlands: a multidisciplinary study of risk and protective factors explaining early school-leaving*, (PhD thesis), retrieved 24-12-2020 from: https://newsroom.didactiefonline.nl/uploads/PDF/Tanja%20Traag%20proefschrift%20schoolverlaters.pdf

Traag, T., & Van der Velden, R. K. (2011), Early school-leaving in the Netherlands: the role of family resources, school composition and background characteristics in early school-leaving in lower secondary education. *Irish Educational Studies*, 30(1), 45-62

United Nations (2000), *Replacement migration: Is it a solution to declining and ageing populations?*, New York: United Nations, retrieved 14-12-2020 from: https://www.un.org/development/desa/pd/sites/www.un.org.development.desa.pd/files/unpd-egm_200010_un_2001_replacementmigration.pdf

United Nations, *Department of Economic and Social Affairs, Population Division* (2019), World Population Prospects 2019, Online Edition

Van Boxtel, H. Engelen, R. & De Wijs, A. (2010), *Wetenschappelijke verantwoording van de Eindtoets Basisonderwijs 2010,* Cito. retrieved 6-2-2022 from: https://www.beteronderwijsnederland.nl/wp-content/uploads/2013/04/cito_wetenschappelijke_verantwoording_eindtoets.pdf

Van Boxtel, H. W., & Hemker, B. T. (2009), *Wetenschappelijke verantwoording van de Intelligentietest Eindtoets Basisonderwijs.* Arnhem: Cito. retrieved 3-1-2022 vrom: https://www.researchgate.net/profile/Hw-Boxtel/publication/265750193_Wetenschappelijke_verantwoording_van_de_Intelligentietest_Eindtoets_Basisonderwijs/links/558bdbb508aee43bf6ad0320/Wetenschappelijke-verantwoording-van-de-Intelligentietest-Eindtoets-Basisonderwijs.pdf

Van de Beek, J. H. (2010), *Kennis, Macht en Moraal – De productie van wetenschappelijke kennis over de economische effecten van migratie naar Nederland, 1960-2005*, (PhD thesis), UvA, Amsterdam, retrieved 15-12-2020 from: https://dare.uva.nl/search?identifier=839e6fe4-90a4-4cc5-b465-18f12ea75f9b

Van der Geest, L. & A. Dietvorst (2010), *Budgettaire effecten van immigratie van niet-westerse allochtonen*, Nyfer, Utrecht

Van der Heijden, P. G., Cruyff, M. J. L. F., & van Gils, G. (2015), *Schattingen illegaal in Nederland verblijvende vreemdelingen 2012-2013* (in opdracht van Ministerie van Veiligheid en Justitie)

Van der Horst, A., L. Bettendorf, N. Draper, C. van Ewijk, R. de Mooij & H. ter Rele (2010), *Vergrijzing verdeeld*, CPB, Den Haag, retrieved 15-12-2020 from: https://www.cpb.nl/sites/default/files/publicaties/download/vergrijzing-verdeeld-toekomst-van-de-nederlandse-overheidsfinancien.pdf

Van Duin, C., & Stoeldraijer, L. (2014), *Bevolkingsprognose 2014–2060: groei door migratie*, Centraal Bureau Voor de Statistiek, 1-23, retrieved 25-6-2022 from: https://www.cbs.nl/-/media/imported/documents/2015/17/2015bt06-bevolkingsprognose-2014-2060.pdf?la=nl-nl

Van Ewijk, C., B. Kuipers & H. ter Rele (2000), *Ageing in the Netherlands*, CPB, The Hague, retrieved 15-12-2020 from: https://www.cpb.nl/en/publication/ageing-netherlands

Van Ewijk, C., N. Draper, H. ter Rele & E. Westerhout (2006), *Ageing and the Sustainability of Dutch Public Finances*, CPB, The Hague

Van Imhoff, E., & Van Nimwegen, N. (2000), Migratie GEEN remedie tegen vergrijzing, *Demos: bulletin over bevolking en samenleving*, 16 (2), 9-10

Vargas-Silva, C. (2015), The Fiscal Impact of Immigrants: Taxes and Benefits, in: B. Chiswick & P. Miller (eds.) Handbook of the Economics of Immigration, Vol. 1B, North-Holland, Amsterdam

Verschuren, S., Gaalen, R. V., & Nicolaas, H. (2011), Arbeidsmigratie, volgmigratie en retourmigratie in de periode 2000–2006. *Bevolkingstrends, 2e kwartaal 2011*, 68-78. Centraal Bureau Voor de Statistiek, retrieved 25-6-2022 from: https://www.cbs.nl/-/media/imported/documents/2011/27/2011-k2-b15-p68-art.pdf?la=nl-nl

Wachter, G., & de Valk, H. A. G. (2018), *Veranderingen in relatie-en gezinsvorming binnen de tweede generatie*, Centraal Bureau voor de Statistiek, Den Haag

Welzel, C. (2013), *Freedom Rising: Human Empowerment and the Quest for Emancipation*. Cambridge University Press.

Wilkinson, C., Goedvolk, M., & Dieten, S. V. (2008), Kortetermijnevaluatie Wet inburgering buitenland, *Significant*, retrieved 15-15-2020 from: https://repository.tudelft.nl/assets/uuid:332752ce-312b-4a4c-8152-1b65477cc36f/1242-volledige-tekst_tcm28-68417.pdf

WRR - Wetenschappelijke Raad voor het Regeringsbeleid (2001), *Nederland als immigratiesamenleving*, SDU, Den Haag

Zorlu, A. (2013), Welfare use of migrants in The Netherlands, *International Journal of Manpower*, 34 (1), 83-95

Zumbuehl, M. & Dillingh, R. (2019), *Ongelijkheid van het jonge kind*, CPB-notitie, retrieved 5-1-2021 from: https://www.cpb.nl/sites/default/files/omnidownload/CPB-Notitie-Ongelijkheid-van-het-jonge-kind.pdf

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