



# Cost of Youth Emigration



Western Balkans  
Democracy Initiative

 Funded by  
UK Government

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# Foreword

This research study into the “Cost of Youth Emigration” is the first of its kind to provide evidence about Macedonian emigration and to answer one simple question: How much does youth emigration cost North Macedonia?

This is a very simple question but it touches upon a very complex issue. Although there has been research into the various reasons for emigration, which is a complex global phenomenon that has existed since the beginning of humanity, there has been very little or no data or other evidence about the actual cost of emigration.

This research study presents an assessment of the costs and the financial impact on North Macedonia and the losses generated by the alarmingly high number of people who leave North Macedonia

every year. The research quantifies the effects and implications of emigration on the overall Macedonian economy and the losses in gross domestic product (GDP), while taking a closer look at how remittances are spent.

The intention is to present this evidence to various stakeholders, the wider public, the media and state and non-state actors. We hope that the evidence will be used by a broad alliance which could then present policy solutions on how to tackle and decrease the cost of youth emigration and its negative effects. We also hope that the study will initiate a wider discussion on the topic of youth emigration.

The study was conducted by the Institute for Development and Innovation, a Serbian think tank which is supported by the Westminster Foundation

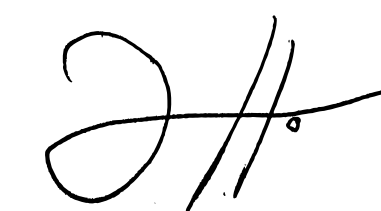
for Democracy (WFD). The Foundation is grateful to the Institute for Development and Innovation for this extensive and in-depth study, and to the British government for supporting the completion of the study.

The WFD is the UK public body dedicated to supporting democracy around the world. In August 2018 the WFD launched a new three-year regional initiative for the Western Balkans titled the “Western Balkans Democracy Initiative”. The initiative is funded by the British government’s Conflict, Stability and Security Fund.

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# Introduction

Historically, the migration phenomenon is as old as humanity itself. Migration movements have been caused by religious, class, national, tribal, economic, and other reasons. In terms of form, migration can be voluntary or forced, within a country's borders or across them, mass-organised or in small groups, etc. Regardless of the cause and form, migration has always made a deep and significant social, demographic, cultural, and economic impact.

The migration  
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Nowadays, demographers distinguish between four types of voluntary migration. Seasonal migration is the movement of workers between villages where they cultivate the land, and cities where they work temporary jobs outside the agricultural season. Another kind is migration from rural to urban areas, encouraged by better living conditions and the fact that employment can more quickly be found there. These movements are particularly frequent in developing countries. In developed countries there are migration flows from cities and towns to suburbs, driven by the higher quality and lower cost of living. A quarter of migrations are international, and include moving out of the home country.

Today, when knowledge is becoming the most important economic resource, this fourth form with a global character is becoming the dominant form of migration flow.

The characteristics of the modern world – the quick exchange of information, developed transport infrastructure, more relaxed rules for crossing administrative borders, and the growing ease of overcoming language barriers – considerably speed up the migration process. Social media, forums, LinkedIn, as well as global headhunting agencies, online applications and video interviews add a completely new dimension to workforce mobility. With only a few clicks, one can today see what awaits a nurse in Germany, a truck driver in the USA, a mechanical engineer in Finland, a programmer in India, or a multimedia artist in France. One can check advertisements for available jobs around the world and apply for them relatively quickly, and have an interview with a potential employer the next day without leaving their bedroom. All this makes leaving one's home country not as big of a venture as it was only 30 years ago.

Achievements of the  
modern world create  
a new dimension of  
workforce mobility.

On the other hand, several years ago, leading international institutions dealing with economic growth and development identified the problem of the lack of a qualified workforce as one of the top limiting factors in dynamic growth in developed countries. In an attempt to resolve this issue, many developed countries have defined strategies to stimulate the immigration of a qualified workforce from less developed countries.

To measure the total effect means first to have an insight into who is migrating.

Experts are becoming increasingly interested in the intensity of today's migration on a global level, the complexity of this process, and its multidimensional effects and consequences. The number of papers about this subject, and different perspectives and conclusions regarding the same questions, only confirm the complexity of these processes. Regarding the actual state being emigrated from, Professor Paull Collier says that the main questions are: who is emigrating, how many people are emigrating, and for how long they are leaving their country. Nowadays it is completely clear that it is necessary to acknowledge the two-way nature of migration flows. Despite the frequent use of the unfortunate term "brain drain", we cannot ignore the array of positive factors of migration. This is in fact the only way for them to be used, through carefully defined measures and platforms.

To measure the total effects of this process on a social community means first to have a clear insight into who is migrating. Are they young people in search of education, unqualified workers in search of higher salaries, or highly qualified workers and highly educated people who are searching for a good system with better chances of professional advancement and better living standards? It is clear that the departure of students, especially if they are planning on returning, is desirable migration from a community's perspective. The departure of unqualified workers can also have an overall positive effect, as they will add value in developed countries, they will be employed more efficiently and paid better, which will be beneficial to the home country's economy, first through remittances and possible investments, and later through their pensions. However, the intensified departure of highly educated, qualified and highly qualified workers, as a rule, has potentially significant negative sociological and economic effects. The Western Balkans has traditionally been a region from which people emigrate to more developed countries. During the last two to three decades, two forms of migration have been apparent there – migration from rural to urban areas and migration to more developed countries. Regarding the second type, demographers, sociologists and economists all agree that its nature has considerably changed in the last few years compared to the 1980s and 1990s. The main differences are better business offers and shorter adaption periods enabling entire families to emigrate, which increases the permanent nature of migration and significantly weakens the interaction with the home country (rarer returns, lower remittances, lower interest in investing, etc.).

For a long period North Macedonia has been facing serious demographic issues.

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1. Professor of economics and public policy in the Blavatnik School of Government at the University of Oxford and the author of the book *Exodus: How migration is changing our world*.

According to George Akerlof, the more people depart, the less attractive it is to stay.

Nobel Prize winner George Akerlof put forward a theoretically important dimension of intensifying migrations. He spoke of the work motivation of those who stay. According to him, the more people depart, the less attractive it is to stay, which means that the motivation of employees decreases considerably. If this approach seems too philosophical, try to imagine the working day of a nurse at a Tetovo hospital after she has spent the night before talking via Skype to her former colleague who now works in Norway and told her about the working conditions, salary, and all her free time. Or try to imagine a public bus driver who checks out the Instagram profile of a former colleague during his break, and sees that he now works in Switzerland. It is clear that the motivation is decreasing among all those who stayed, whose qualifications are popular and desired abroad, and who are pressured into thinking about leaving. This is a real problem that coincides with a negative impact on productivity. The quantification of this problem is very difficult, but there is no doubt that there is a reverse proportional connection between emigration intensity and work motivation.

North Macedonia, like other Balkan countries, has been facing demographic issues for several decades. Depopulation trends are seen in intense population ageing, which is a consequence of the negative migration balance on the one hand, and the lower birth rate on the other. Regional population distribution is another problem in North Macedonia. The negative migration balance is present in all regions and seen in more than two-thirds of municipalities. These problems have been recognised, and it can be said that first steps towards their resolution, or at least mitigation, have been taken. The country has also adopted the Strategy for Cooperation with the Diaspora 2019-2023. It is becoming clear that this is a global problem of developing countries that has no universal solution. It requires a complex set of measures that reflect the specifics of each country and that should connect with a series of socio-economic policies to be effective in the medium term. In that respect, the adoption of concrete measures and their efficient implementation necessitates the availability of detailed data about migration, as well as its deep analysis.

North Macedonia has been facing depopulation trends for a longer period.

This work uses public demographic statistics, education statistics, and macroeconomic data to attempt to quantify the impact of the current emigration trend on the economy of North Macedonia, and to set a basis for further detailed and deeper analysis.

Three key questions that the analysis is trying to answer are:

1. **What are the average higher education expenses for people?**
2. **What is the opportunity cost in terms of the potential gross domestic product (GDP) growth generated by the annual population emigration?**
3. **Does the migration flow have positive effects on the economy of North Macedonia and, if so, what are they?**

# Key findings

In North Macedonia, as in other Balkan countries, a complete analysis of the impact of migration is significantly hampered by the lack of reliable and detailed data. The exact number of persons who depart, the length of their planned stay abroad, their gender, age and education, as well as the key motives for leaving are data for which there are no solid administrative sources. Therefore, to analyse this phenomenon, it was necessary to simulate different scenarios based on different assumptions, and to draw conclusions and estimate results indirectly. In this work we have tried to quantify the economic effects through the costs of education and the opportunity cost in terms of lost potential GDP, as well as the positive economic effects through the inflow of remittances.

The results show that North Macedonia invested around €502 million in education in 2018. The highest amount pertained to higher education (€203.4 million), followed by primary education (€191.1 million) and secondary education (€107.5 million).

The education of a Macedonian that ended in 2018, covering primary school (nine years) through secondary school (four years) until the end of academic studies (which lasted five years on average), cost around €29,000. The cost of a four-year secondary education (including primary education) that ended in 2018 amounted to around €14,500, whereas a nine-year primary education cost close to €9,000. The estimate of the PhD education cost is not easily done due to the unavailability of data in the necessary structures. Based on the available information, approximately €48,000 on average is spent to educate a PhD.

Depending on the educational structure and number of departures, the total education costs of people who leave North Macedonia in one year vary from €116 million to €433 million.

Due to the inability to prevent annual emigration, the potential annual gross added value loss measured around €333 million, which is around 3.1 per cent of the 2018 GDP. To put it simply, every work-able person who leaves North Macedonia takes approximately €15,850 of some potential future GDP with them.

Besides the negative effects, we cannot ignore the benefits of emigration, even though most demographers and sociologists consider them to be side effects. The most important direct benefit of migration flows are remittances. Remittances made up around two per cent of North Macedonia's GDP, or around €200 million, in 2018. This data is based on administrative sources and legal bank flows. According to the International Monetary Fund (IMF), the share of remittances through informal channels equalled an additional four per cent of GDP. Consequently, the total share of actual remittances can reach up to six per cent of GDP, which means that North Macedonia is among the top-ranked countries by the level of this income category. In a broader sense, if we add to remittances the inflow from foreign pensions and salaries of Macedonian residents abroad, this amount rises to around €721 million. However, though significant, this source of funds cannot be a generator of economic growth, since only one per cent goes into business investment.



# 1 The migration statistics



The State Statistical Office of the Republic of North Macedonia compiles migration statistics; the currently available data covers the period between 2003 and 2017. Data on population movement was obtained from immigration and emigration records of regional offices of the Ministry of Internal Affairs of the Republic of North Macedonia.<sup>2</sup> With the exception of 2005, in all other years the migration balance is positive.

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2.

The reference unit of the survey “Population Migration” is the act of moving of each citizen (and of each underage person as well) who has changed the place of their permanent residence (stay) or the address of their dwelling; in addition, we keep track of all foreigners who register or give notice of departure from the Republic of North Macedonia due to their arrival from or departure to another country. The term “place of permanent residence or stay of a citizen of the Republic of North Macedonia” refers to the place where a person has settled with the intention of permanently staying or residing. The term “change of the place of permanent residence or stay” refers to: moving from one settlement to another in the territory of the same municipality in the Republic of North Macedonia; moving from one settlement to another, the latter being located in the territory of another municipality, both municipalities being in the Republic of North Macedonia; moving from the Republic of North Macedonia to another country or moving from another country to the Republic of North Macedonia. The term “place of temporary residence of a foreigner” refers to the place where a foreigner has settled with the purpose of temporarily residing in the territory of the Republic of North Macedonia. The duration of each foreigner’s stay is limited depending on the kind of permit issued based on relevant documents. For more details, please see “Migration 2017”, State Statistical Office, Republic of North Macedonia, p. 9.

## INFLOW AND OUTFLOW OF PEOPLE IN NORTH MACEDONIA

Year	Inflow of foreign people	Outflow of domestic people	Net migration
2003	578	112	466
2004	838	656	182
2005	967	1,282	-315
2006	2,728	1,073	1,655
2007	1,815	224	1,591
2008	1,390	740	650
2009	1,598	769	829
2010	2,412	923	1,489
2011	2,862	1,143	1,719
2012	3,391	1,330	2,061
2013	3,501	945	2,556
2014	3,943	740	3,203
2015	5,099	767	4,332
2016	4,460	440	4,020
2017	4,082	141	3,941

Source: State Statistical Office

The methodological explanation clearly shows that the research is based on administrative sources and documented population movements, which somewhat explains the considerable difference between the official data and the Organisation for

Economic Cooperation and Development (OECD) estimate of migrants from North Macedonia. In the International Migration report,<sup>3</sup> the OECD estimates that in the period from 2012 to 2016 around 115,000 people left North Macedonia.

### INFLOW AND OUTFLOW OF PEOPLE IN NORTH MACEDONIA

	2012	2013	2014	2015	2016
Outflow of people	17,886	20,688	22,043	32,039	21,795
Inflow of people	9,284	12,021	11,840	15,423	18,957
Net migration	-8,602	-8,667	-10,203	-16,616	-2,838

Source: OECD

According to OECD estimates, on average 23,000 people a year emigrated from North Macedonia to OECD member countries in the period 2012-2016. The migration flow peaked in 2015, when 32,000 people left North Macedonia, whereas that number was 30 per cent lower the following year. It is important to note that the data includes all people who left the country in a single year, including people who left the country to work temporarily, who left to educate themselves, or were sent on intercompany transfers, which are all forms of temporary labour migration.<sup>4</sup>

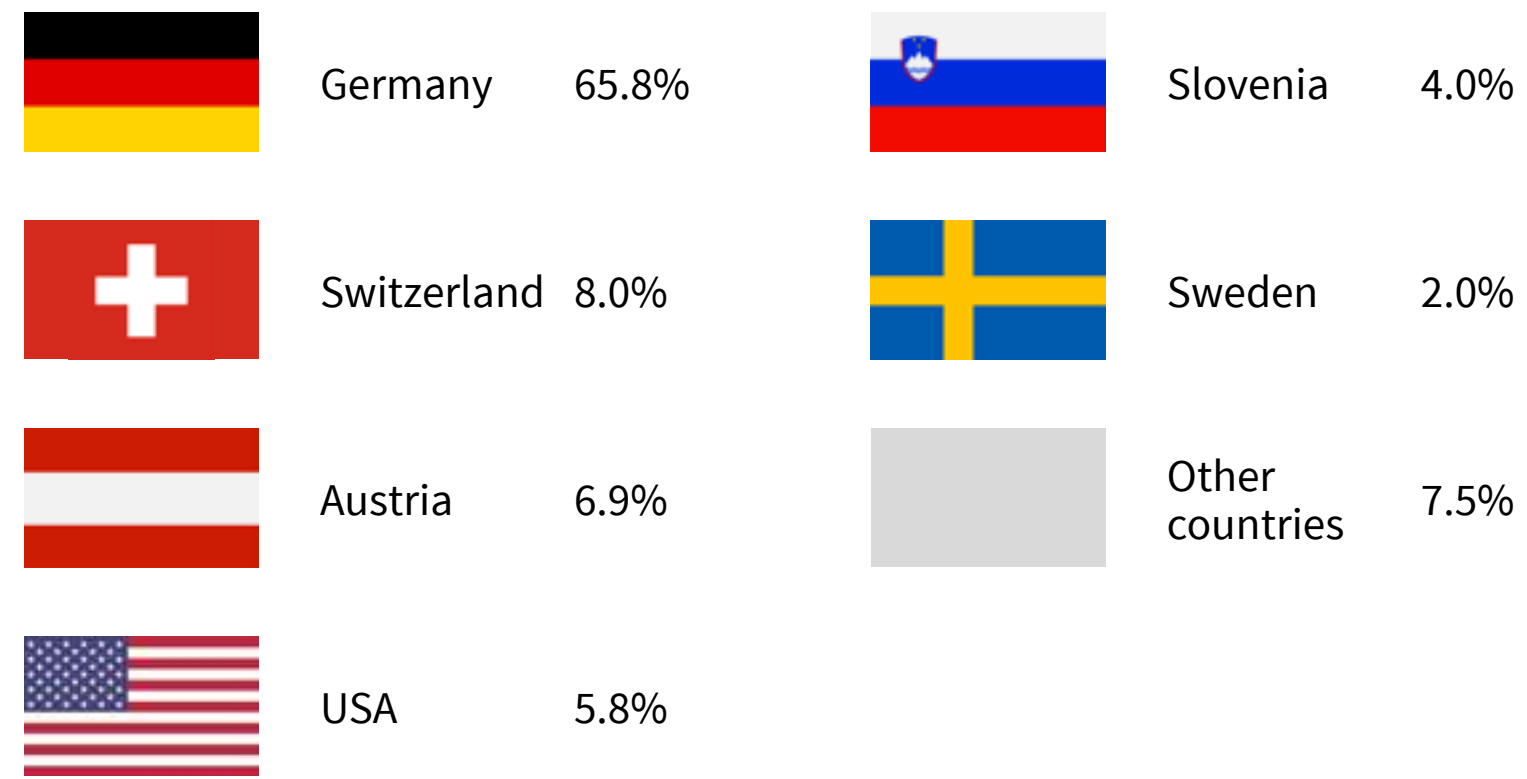
Since the OECD approach includes temporary migration, the number of people who return cannot be overlooked; in this five-year period, around 13,500 people returned, which means that the average annual net outflow measured around 9,400 people.<sup>5</sup> According to the 2016 OECD statistics, almost two-thirds of all Macedonian migrants went to Germany, around eight per cent to Switzerland, whereas Austria was in third place.

3. International Migration Outlook 2018, Paris, OECD.

4. For forms of temporary migration, please see the International Migration Outlook 2018, OECD, pp. 25–34. Also, the detailed metadata for each OECD member country is shown on pp. 315–319 of the report in question.

5. <https://stats.oecd.org/Index.aspx?DataSetCode=MIG>.

### The structure of Macedonian migrants by destination country, 2016 (%)



Source: OECD



Other than the OECD, of the relevant international institutions, the United Nations also compiles migration statistics per country. When analysing its data, it is important to know the methodological differences in the scope of the data used. The UN has numbers of migrants starting from 1990, and it publishes those numbers every five years. However, UN data, unlike OECD data, not only shows the number of migrants from a certain country, but also the total number of migrants from all countries, no matter when they moved. According to UN data, the number of migrants from North Macedonia increased in the period between 1990 and 2000, and slowed down in the next five years. After this short period, the migration flow accelerated and the number of migrants increased, especially after 2010; this is an ongoing trend. A comparison shows that the rate of migration from North Macedonia is more or less similar to other countries in the region.

According to UN data, in 2017 around 535,000 North Macedonia-born people lived outside North Macedonia. As regards the destination, around 55 per cent went to high-income countries (Switzerland, Austria, Germany), and the rest to middle-income countries, mostly Turkey. According to this data, in 2017 around 437,000 people who emigrated from North Macedonia (around 82 per cent of all migrants from this country) lived in Europe. Around 56,000 people went to Australia, which is around 10.5 per cent of all migrants since 1990, while around five per cent went to the USA, which is around 27,000 people. The remaining migrants went mostly to Canada, and a small number to Asia and Africa.

We will leave it to demographers, sociologists, and working groups to determine the exact number of people emigrating from North Macedonia, and the nature of those departures, while this work will remain focused on the estimation of the education costs of migrants. The estimation of total economic effects is based on the OECD model's data, but it is performed in such a way that any other relevant source could easily be applied as well.

# 2 The economic nature of migration



The causes and motives behind individuals' decisions to leave their home country are numerous. As a rule, a plethora of factors influence these decisions, with one always having the dominant leading role, and other factors having a supporting character, helping to reinforce the decision already made. A single look at basic macroeconomic indicators in the countries in the region and the countries identified as the most attractive emigration destinations for the people in the region undoubtedly shows that economic motives have the leading role in the decisions to emigrate.

The alarmingly high unemployment rate of the most mobile part of the population creates the key problem for young people when they finish their education – to find a job in their profession, or any job for that matter. The minimum wage is lower than the minimum consumer basket, and average earnings are lower than the average consumer basket, which shows the prospects of those who do find a job. Finally, GDP per capita, as a population's standard measurement, points out the quality of life to be expected. Comparisons to developed countries based on only a couple of these indicators create a rather depressing image.

Average net earnings in Germany and Switzerland, which are the most frequent destination countries for Macedonian emigrants, are six and nine times greater than those in North Macedonia, respectively. GDP per capita is eight times higher in Germany, and fourteen times higher in Switzerland. Another huge difference can be seen by comparing the unemployment rates of young people: the registered unemployment rate of young people in North Macedonia was 46.7 per cent in 2017, while the same indicator measured 6.8 per cent in Germany and 8.1 per cent in Switzerland.



GDP PER CAPITA IN 2018 (US\$)			
Countries where people migrate from		Countries where people migrate to	
North Macedonia	6,084	Germany	48,196
Bulgaria	9,273	USA	62,641
Croatia	14,869	Austria	51,513
Serbia	7,234	Slovenia	26,234
Romania	12,301	Sweden	54,112
Hungary	15,939	Switzerland	82,839
Montenegro	8,761	France	41,464
Albania	5,254	Italy	34,318

Source: World Bank

AVERAGE NET EARNINGS IN 2018 (€)			
Countries where people migrate from		Countries where people migrate to	
North Macedonia	395	Germany	2,360
Bulgaria	574	USA	3,008
Croatia	841	Austria	1,848
Serbia	420	Slovenia	1,128
Romania	579	Sweden	2,458
Hungary	688	Switzerland	4,502
Montenegro	511	France	2,225
Albania	316	Italy	1,878

Source: National statistical offices and authors' estimations

## UNEMPLOYMENT RATE OF YOUNG PEOPLE IN 2017 (%)

Countries where people migrate from		Countries where people migrate to	
North Macedonia	46.7	Germany	6.8
Bulgaria	12.9	USA	9.2
Croatia	27.4	Austria	9.8
Serbia	31.9	Slovenia	11.2
Romania	18.3	Sweden	17.9
Hungary	10.7	Switzerland	8.1
Montenegro	31.7	France	22.3
Albania	31.9	Italy	34.7

Source: World Bank

## POVERTY RISK AND SOCIAL EXCLUSION RATE IN 2017 (%)

Countries where people migrate from		Countries where people migrate to	
North Macedonia	41.6	Germany	19.0
Bulgaria	38.9	USA	-
Croatia	26.4	Austria	18.1
Serbia	36.7	Slovenia	17.1
Romania	35.7	Sweden	17.7
Hungary	25.6	Switzerland	18.1
Montenegro	-	France	17.1
Albania	-	Italy	28.9

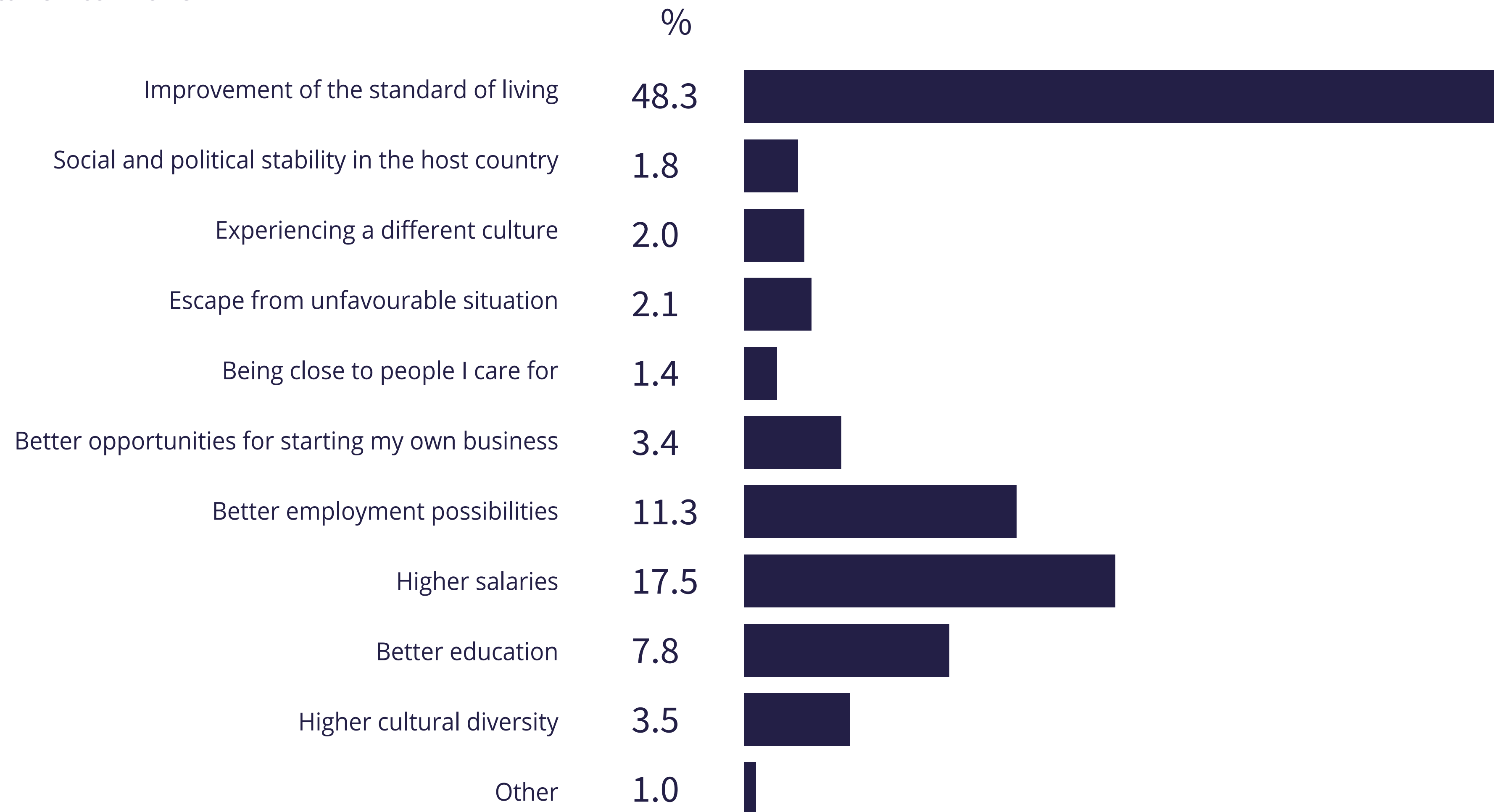
Sources: World Bank

When deciding about emigrating, young people do not research macroeconomic indicators, but are instead led by personal motives created by these indicators in everyday life. The reflection of the macroeconomic picture on the life of an individual at the micro level is an important push factor in the migration flow.

A survey among young Macedonian people – Youth Study North Macedonia 2018/2019 – showed that nearly half of young people cited the improvement of their standard of living as the main reason for migration, almost 18 per cent cited higher salaries and 11.3 per cent better employment possibilities.



## Concrete activities taken to move



Sources: "FES: Youth Study North Macedonia 2018/2019"

Besides macroeconomic indicators, we mention two more indicators which, according to our findings, reveal the reasons and motives for the acceleration of migration from North Macedonia, as well as from all other countries in the region. These are the Gini coefficient and the Human Development Index.<sup>6</sup> At the global level, the Gini coefficient varies from 25 per cent (Scandinavian and some Central European countries) to 60 per cent (mostly African or Latin American countries). According to the available data for 2016, the value of the Gini coefficient in North Macedonia was 33.6 per cent, which ranks it in the middle group of countries according to equality in income distribution. On the other hand, the Human Development Index for North Macedonia is 0.757. This places North Macedonia among higher-ranked countries according to this index in Europe, which ranges from 0.953 in Norway to 0.700 in Moldova.

To put it simply, by looking at these two indices and taking into account the methodological background of their calculation, we can say that the individuals from this region are closer to the individuals from developed countries (in terms of value) than the social systems in this region are to those in developed countries. This disparity is another generator of the increased migration flow from this region to developed countries.

The mentioned reasons, combined with the state of the rule of law, adherence to laws, corruption perception, extent of discrimination based on sexual orientation, freedom of speech, as well as the perception of the outlook of this region create a broad range of push factors which become more intense in certain time periods.

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6. The Gini coefficient is a measure of distribution used to gauge inequality in terms of income distribution in an entire population. A low Gini coefficient shows that equality in the income distribution is higher, whereas a high Gini coefficient points to a higher level of inequality. Hypothetically speaking, the zero value of this indicator represents perfect equality, whereas the value of one represents perfect inequality (all income goes to one person). The Human Development Index is a composite index that accounts for several variables related to the human capital of a country (poverty, literacy, education, life expectancy, etc.). The higher the value of the index, the better the performance of the country is.

# 3 The costs of population emigration





To assess the demographic, economic, sociological, cultural, and all other factors of emigration of young people from the point of view of the “brain drain”, the state needs to take into account the two-dimensionality of influences, as well as their positive and negative aspects.

For this reason, the research literature often refers to this phenomenon as multidimensional and stresses the need to approach its observation in an interdisciplinary way. Before researching the economic dimension of the effects of these processes on North Macedonia, it would be useful to state the effects studied by the population migration literature.

The most direct cost that society faces is the loss of funds spent on education. Depending on the level of education, society invests into the education of individuals for nine, 13, 17 or even over 20 years, and with their emigration those investments become costs, or even worse, they become investments in the receiving country, as they obtain educated individuals without spending any money on their education.

The decrease in GDP is one of the more significant negative consequences of emigration, due to the decrease in consumption, which is one of its main components on the expenditure side of GDP. Also, by leaving the country, individuals stop spending in their own country, and that way not only do they make a negative impact on macroeconomic aggregates, but they also help to reduce the tax base. Budget tax revenues decline because of migration, not only based on value added taxes (VAT), but also based on the decrease in income taxes and other so-called portable or movable taxes.

Another distressing consequence of emigration is the creation of irregularities in the labour market. We end up with a situation where the market offers jobs that demand a workforce with modern skills more characteristic of younger generations, and a number of older unemployed people with a more traditional set of skills. Also, the loss of creative capital is another side effect, which becomes significant in cases of the emigration of young people because they are the source of future innovators and implementers of new manufacturing or general service ideas.

Another negative effect is the increase in the pressure on pension and health insurance funds, which is caused by the migration of young people, among other depopulation trends, and contributes to population ageing. The young people who departed were potential employees in the future, who would contribute fees to the self-sustainability of these funds.

Research literature and papers on migration of young people, other than the already clearly formulated dimension of the “brain drain” in this process, also point to its potential win-win dimension.

A country can benefit from the emigration of young people, especially if their connection with the home country remains strong.

However, for the home country to gain the benefits, it is necessary to clearly formulate policies and programmes which would use migration as a potential resource. Some experts recommend active management of labour migration with stimuli for occasional migration. In this sense, it is recommended to encourage legal and administratively facilitated, shorter, temporary or seasonal, circular, and one-time work stays, which altogether have a positive impact on the home economy. A direct economic effect is remittances. According to the balance of payments data of the National Bank of the Republic of North Macedonia, this revenue has an important role in financing the current account deficit. Also, other important positive factors are the knowledge and experience that the young gain abroad and bring back, if they return.

Finally, a potentially significant source of economic development, especially in small economies like North Macedonia, is the potential investment that can come from savings funds of the North Macedonian diaspora, which would certainly have a positive effect on economic flows. To obtain this benefit, the state administration has to have active measures and adapted platforms in place which would speed up and intensify these processes.

# How much is the total cost of an education that ended in 2018?

## 3.1

In an attempt to answer this question, this study started with the official statistical data of national accounts that the State Statistical Office provided for the period 2001-2018, which is in line with the internationally accepted methodology defined by the European System of Accounts (ESA 2010). With this research goal in mind, we used the data of GDP by production approach according to the European Community's revised statistical classification of economic activities (NACE Rev2), to analyse output and intermediate consumption of the education sector.

### METHODOLOGICAL NOTES

The output is the total value of products created and/or services performed during the period under review. The output of education is predominantly created by the state sector (especially in primary and secondary education) and belongs to non-market output. This is the output provided to others for free, or at prices that are not economically significant. According to the national accounts concept, non-market output is calculated by the input-cost method or by the following formula: employee compensation + intermediate consumption + consumption of fixed assets + other consumption taxes (paid) – other production subsidies (received) + business

surplus. Other than that, besides non-market output, the national accounts data also contains values of market output. This type of output mostly comes from the private sector (private schools, faculties or universities); but another part is also created in the state sector (especially in higher education). It is important to note that the State Statistical Office of the Republic of North Macedonia includes estimates of the non-observed economy in its calculations, which means that the stated amounts also include the costs for education activities outside regular flows (e.g. private lessons, translation services, additional courses, etc.).

In the next iteration, the output of education is increased by the accompanying costs, which are methodologically not in the initial education output data, but are directly or indirectly linked to education. This first refers to costs of dormitories provided by the state, which are defined in national accounts as part of the accommodation and food service sector output. In addition, state costs regarding student loans and scholarships are included, which are defined as part of the financial intermediation sector. In the last iteration, the analysis includes gross fixed capital formation, such as investments in buildings, equipment, etc. By taking all these components of education into account, we obtain a synthetic indicator that is very close to the total amounts used for education in an economy in terms of value and concept. The yearly costs were estimated for the period 2001-2018 and then discounted by the reference interest rate, in order to even all the costs in the observed period with today's value of money. To distribute this synthetic indicator of total education costs by the level of education, we used the budget data on the amounts used for these purposes.

In parallel, the official statistical office data has information on the number of students in primary and secondary schools and universities for every year in the relevant period in order to calculate the costs allocated per unit. This data set allowed us to estimate the costs per education level, and the answer to the question: On average, how much did the primary, secondary, and higher education of an individual (who graduated in 2018) cost the society?

It is also important to note that this average should not have significant deviations in primary and secondary education, whereas the deviation significantly increases in higher education. This is actually a synthetic indicator of education costs as it has a part of each academic education level. More precise estimates could be done in separate faculties and colleges, specialists' profiles and postgraduate levels, which will be a topic for future papers.

## THE RESULTS

The results obtained from the application of the aforementioned methodology show that around €502 million was invested in education in 2018. The highest amount pertained to higher education (€203.4 million) followed by primary education (€191.1 million) and secondary education (€107.5 million). The education cost of a Macedonian which ended in 2018, covering primary school (nine years) through secondary school (four years) until the end of academic studies (which lasted five years on average) cost around €29,000. The costs of a four-year secondary education were around €14,500, whereas a nine-year primary education cost close to €9,000.<sup>7</sup> The estimate of PhD education costs is not easily done due to the unavailability of data in the necessary structures. Based on the available information, approximately €48,000 on average is spent for the education of a PhD.

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7. According to the amendments to the Law on Primary Education adopted on 29 May 2007, compulsory primary education lasts nine years, which is divided into three three-year cycles. Also, according to the amendments to the Law on Secondary Education adopted on 18 April 2007, secondary education is compulsory.

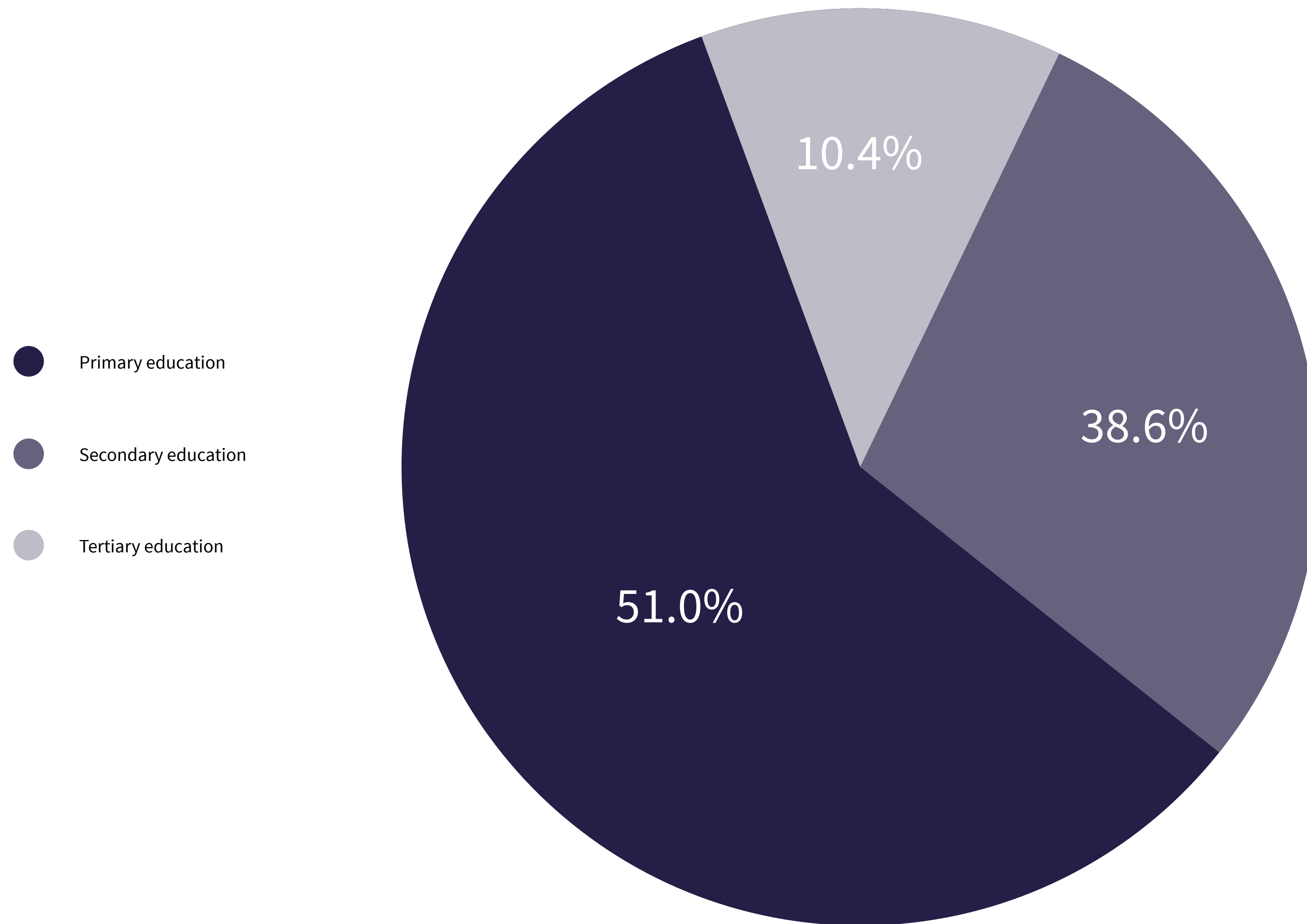


Source: Authors

Even though the use of average values in data analysis can blur the image or be interpreted in different ways, please note that these amounts are only the first step towards the quantification of the negative migration balance effects. The group of people with faculty degrees is quite heterogeneous in terms of costs per faculty, length of studies, the degree level, accompanying education costs, etc. In that sense, the existence of yearly emigration data on the age and education structure of emigrants, their return plans, whether they are individuals or families, etc. would significantly improve this calculation. However, from a macroeconomic standpoint, any deviation from the current quantifications would not drastically change the conclusions we have reached. Also, by observing the yearly costs, the study found strong stability in this data series, which enables consideration even of those who graduated before 2018.

As stated, according to OECD data, the average yearly outflow of population from North Macedonia in the 2012-2016 period was around 23,000 people. There is no detailed age and educational data for this group, or at least it is not publicly accessible. In order to estimate the education cost of this group, the study first excluded all people younger than five, and corrected the group of people with incomplete primary or secondary schools. The basic population age structure was used as a framework for this estimate, and was modified with the assumption that the number of emigrated children is less by half than the number of children in the population. With this approach, a group of around 21,100 people was reached. As for the educational structure of the migration group, the study used the educational structure according to the 2002 census.

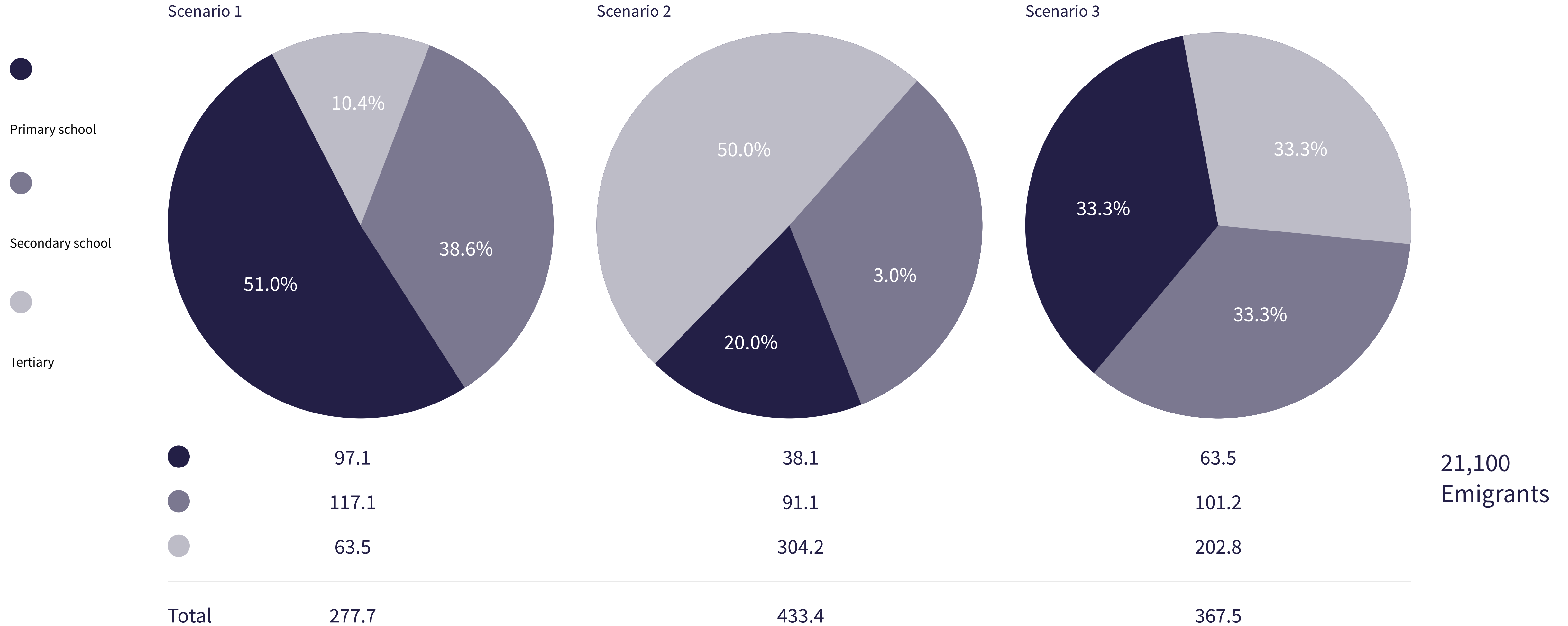
## The population age structure according to the education level, 2011 Census – Scenario 1



The approach by which individual costs were reached also allowed us to create alternative scenarios. This approach will enable us to establish the education costs for the entire migration group once we have the exact educational structure of people emigrating from North Macedonia. For now, we have created Scenario 2 based on the assumption that the number of highly educated people leaving the country has increased in the last couple of years, so this stratum is assigned the most significant weight of 50 per cent, whereas secondary school students were assigned 30 per cent and migrants with primary schooling 20 per cent. We also created Scenario 3, which is based on the assumption that all education levels are equally represented in the entire emigration flow.

The results show that the total education costs of people who leave North Macedonia in one year, depending on the educational structure (chosen scenario), vary from around €278 million to €443 million. For the sake of comparison, total exports of food in 2018 amounted to around €320 million, while the total tourism inflow measured around €325 million.

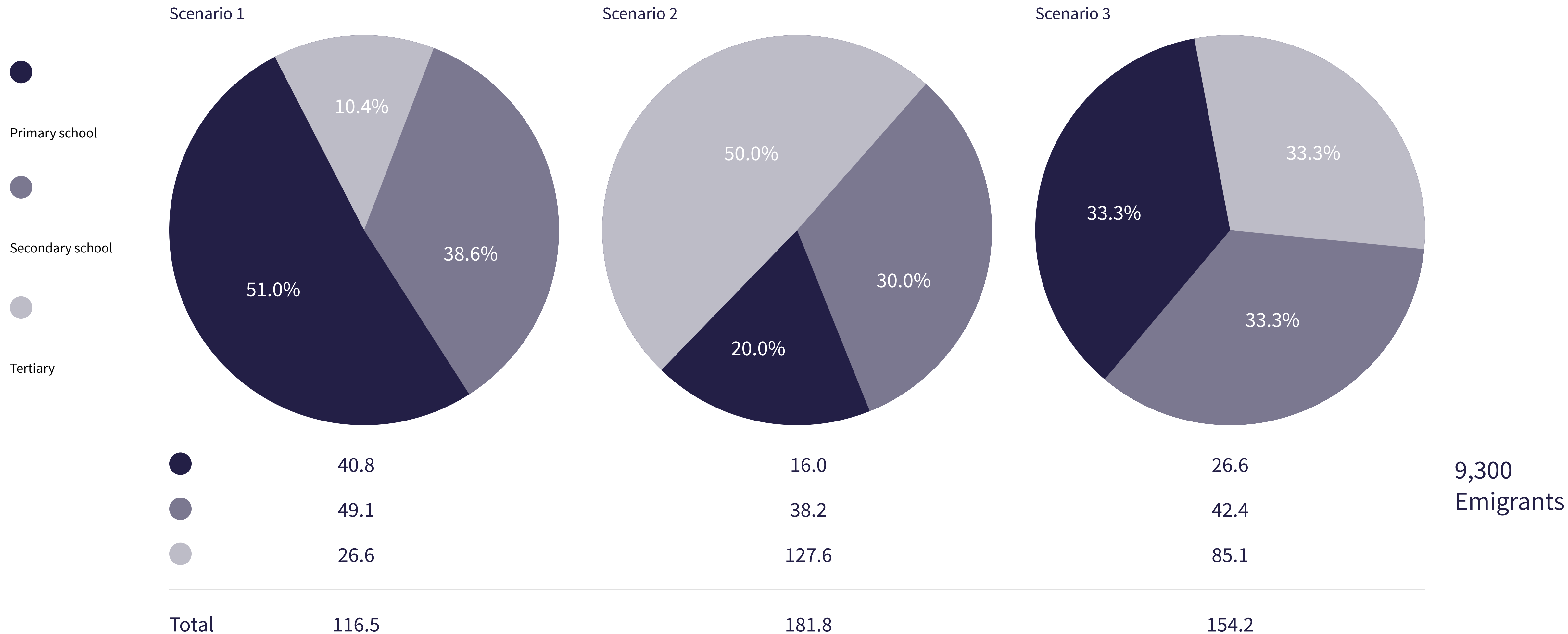
Total education costs of the total population outflow  
per chosen educational structure (€ million)





As stated in the introduction, this data includes all the people who left the country, from temporary workers and student exchanges to those who are in professional or technical training. With this approach, the OECD publishes data on immigration flows. Due to the two-way nature of this process, the average annual net outflow from North Macedonia is around 9,300 people. An additional adjustment was made to this group for children under age 6 and adults with no education. The education costs applied to this number of migrants under the same assumptions regarding educational structure as in the case of total outflow ranged from €116 million to almost €182 million. By comparison, the exports of ICT services from North Macedonia measured around €183 million.

## Costs of education of the net outflow of the population per chosen educational structure (€ million)



Detailed statistics of those who leave or arrive do not exist, as it is not known whether these are temporary workers, foreign pensioners, or migration for education and professional training. This makes it considerably difficult to precisely quantify the final effect of the migration flow. Nonetheless, the effect of the total outflow should be considered very seriously because no matter the current nature of these departures, they are a step towards permanent emigration, especially if the policies of developed countries are taken into account.

With the lack of a sufficient workforce, developed countries devise various policies to attract work-capable people. According to the 2017 report, EU countries have introduced new measures which would make it easier for workers from other countries to stay. Their goal is to make up for the lack of qualified workers seen in some countries. That is why Austria amended its Law on Residence and Settlement in 2017 with the purpose of making it easier to access the employment market and to integrate qualified workers from other countries into society. Estonia developed the “Work in Estonia” strategy with the goal of attracting highly qualified workers.

Germany started informing migrants in additional ways and organised professional courses and training, all with the purpose of enabling working migrants to access the legal job market more easily and to hire them for the long term. Italy signed a memorandum of understanding with the chambers of commerce of some non-EU countries and founded the Employers’ Association as well as other institutions in order to simplify the process of hiring highly qualified people from these countries.

EU countries are making procedures for accepting students from non-EU countries easier as well. The basic measure is to enable easier access to the job market for students, but also for those who graduate. Furthermore, administrative procedures related to studying in EU countries are simplified, as well as those related to staying in the country after graduating. Sometimes, EU countries target a specific country and create specific policies to attract the young and students from that country. In order to attract students who would work and study at the same time, Austria has increased the number of permissible working hours for students to 20 hours per week.

Also, once they graduate, foreign students can stay for an additional year in Austria in order to find a job. These measures encourage the young and work-capable people from North Macedonia to continue their education or to develop their careers in one of the EU countries.

The destination countries of highly educated people are undoubtedly gaining by their arrival and involvement in the economic and social system. This “gain” is much greater than the “loss” of the home country. Not only is the lack of workforce resolved, but also we have to consider the greater costs of education in developed countries. According to 2015 Eurostat data, the yearly cost to the state and households for secondary education in France was around €11,000, in Germany around €10,500, whereas a little less than €1,200 per student was spent in North Macedonia. This gap is even bigger when we look at academic education, as North Macedonia spent around €2,700 yearly on a student, while the UK spent eight times more, Sweden six times more, Germany almost five times more, etc.



TOTAL EDUCATION COSTS IN 2015 PER STUDENT (€)		
	Higher education	Secondary education
North Macedonia	2,736	1,142
Germany	13,137	10,457
France	13,333	10,900
Austria	14,074	9,410
Sweden	17,011	9,100
Great Britain	21,682	8,796

Education costs represent costs over a longer period in the past. However, the departure of a certain number of people abroad has a strong current direct and indirect effect on a country's economy and is the generator of lost gains in the future, which is in a way the exact definition of opportunity cost.

Even though this cost is related to individuals' decisions, this study attributes it to the entire society. By leaving to demographers and sociologists the recognition and description of the effects of migration flows on population ageing and the development of total society, this study focuses on identifying the magnitude of the impact on the economic component of social progress. With that intention, this study connects the average number of people who leave North Macedonia on a yearly basis with GDP as the measure of economic activity of a country.

Source: Eurostat and authors' calculations.

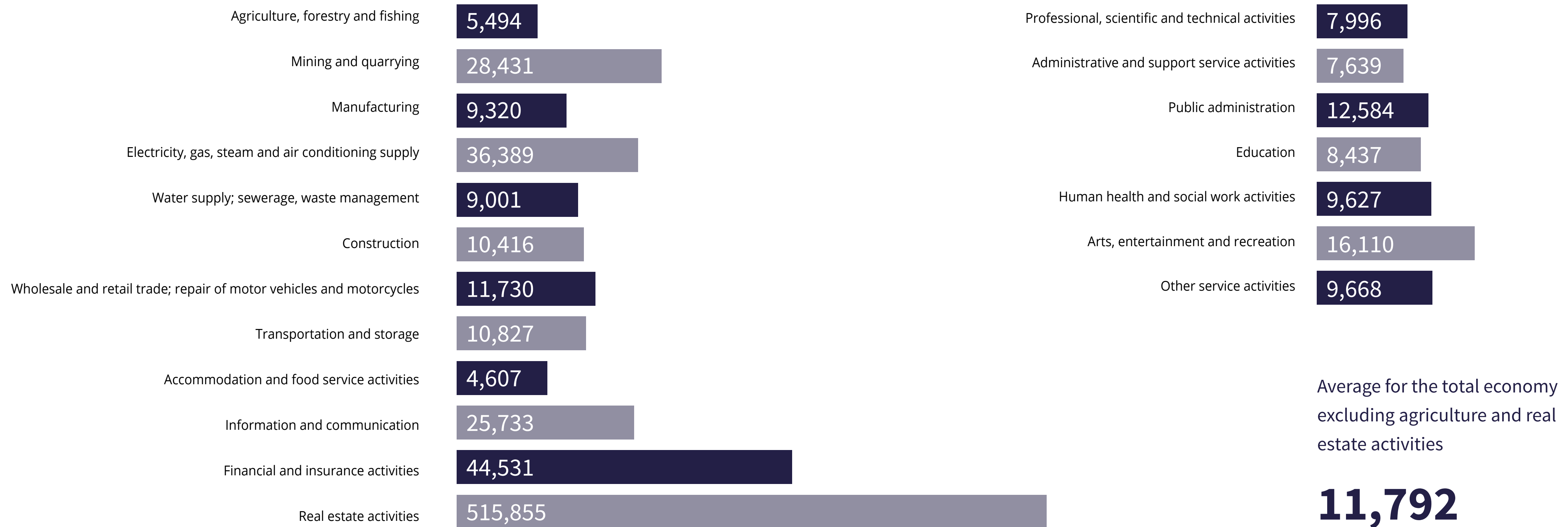
# How big are the effects on economic activity?

## 3.2

According to the production approach of measuring economic activity, GDP represents the total created gross value added by resident institutions during one year, where taxes are added and subsidies are subtracted. Gross value added is actually the total value of produced goods and services subtracted by intermediate consumption, meaning the operational, material, and non-material costs that were incurred during production or service provision. Official data on the created gross value added and the total number of employees give the production indicator – the gross value added per employee.

This indicator significantly varies from one line of work to the next, which is determined by whether it is work- or capital-intense. For example, it can be seen that in information and communications technology and finance, this indicator is extremely high. This is also to be expected considering that the majority of employees in these lines of work are highly educated. On the other hand, in lines of work that traditionally hire a lot of workers with lower education levels (such as hospitality), or have a visibly heterogeneous structure of employees (such as healthcare), this indicator has lower values. The following table shows the gross value added per employee in each line of work. Due to the specificity of measuring agricultural production, and the specific methodology of measuring economic activities in real estate work, these two have been omitted from the observation.

## GVA per employee (€) 2018



Source: MakStat

The 2018 data shows that gross value added per employee was around €11,800. The study uses the average total yearly outflow of 22,890 people, modified with the appropriate age structure to use the data for work-capable people. After correcting the data based on age structure, and taking into account that not all of them are work-capable, the study considered the number of 21,033 people. The next assumptions were that the reason for their departure – not being able to find work in their own profession, or any work – did not exist, and that the economic dynamics created the conditions to hire them, so that they were considered employed persons during 2018. By using the average amount per worker, the study found an opportunity cost of around €248.1 million in terms of lost gross value added. This is a direct negative effect on the potential GDP of the country.

Having in mind that the departure of all these people also implies a decrease in total consumption and aggregate demand, which finally negatively affects the volume of manufacturing and services, and by extension gross value added and GDP, this gives the indirect influence of migration flows on economic activity.

By using the data on annual net earnings, and the number of active workers who emigrated, as well as the relation (or the elasticity coefficient) between personal consumption and the newly created value, this indirect effect is estimated at €64.4 million.

Other than the direct and indirect influences, macroeconomic analyses also often use the so-called induced influence. Having in mind that it encompasses a large number of indirect reflections on economic flows, its quantification is almost impossible. For example, if these people had stayed in the country, it would have increased the demand for more doctors, teachers, dentists, hairdressers, etc., whose salaries would create additional aggregate demand, which would in turn stimulate the economy, turning this entire flow into a vicious circle of effects that are impossible to observe and evaluate in their entirety. The departure of these people is an opportunity cost for the state as well, as their future taxes are lost. This means income taxes, social security taxes, value added taxes and excise as the largest budget income sources. By using the available data on the number of workers, total personal consumption, the budget income and their relationship, this amount is estimated at €69.9 million. As this money would have been spent via consumption in the next iteration (goods and services, capital investment,

increases in salaries and pensions), it would also have stimulated the economy. That is why this influence is also included in the group of induced effects so, by using the fiscal multiplier, we estimate it at €21 million of new gross value added.

The results show that due to the inability to prevent the annual outflow, the potential annual gross value added loss was around €333 million, which was around 3.1 per cent of the 2018 GDP. To put it simply, by leaving North Macedonia, every work-capable person takes approximately €15,850 of some potential future GDP with them. At first glance there is a huge gap between different lines of work, so for instance ICT experts (a homogenous line of work in terms of workforce) generate around €33,100. On the other hand, the estimate for healthcare workers demands far more detailed data and a deeper analysis in order to calculate the opportunity cost (e.g. of a specialist doctor, nurse or ambulance driver).

Effects of migration on economic  
activity per person (€)



Source: Authors



# The economic benefit of population migration

## 3.3

The estimate of the effect of the migration cycle varies depending on the perspective. From an individual's viewpoint, migration has a positive economic effect, as the move is “for the better”, and done with that purpose. From a global viewpoint, migration processes are also positive, as they help properly reallocate human capital. With this, general wealth and efficiency rise, contributing to global growth. A number of authors compare this process with the process of the uninterrupted flow of goods and services, emphasising their positive effects on the global economy. On the other hand, from a local and national viewpoint, the emigration of qualified and highly qualified people is a loss to the community.

However, as stated before, these processes have an ambiguous impact on the national economy. We have tried to quantify the negative economic effects from the education of emigrated people, as well as the opportunity cost in terms of lost future gain, and to quantify the effect on GDP. However, the benefits of these processes cannot be ignored, even though most demographers and sociologists consider them side effects.

The most important direct benefit of migration flows is remittances. Remittances are the money transferred by emigrants to the people close to them who remained in the home country. Their income often improves the life quality of the recipient, while also considerably influencing the GDP of a country such as North Macedonia. The share of remittances in GDP of North Macedonia was around two per cent or around €200 million in 2018. This data is based on administrative sources as well as legal bank flows and fast money transfer counters, so we could assume that this amount is much higher annually if informal flows are included. According to the IMF, this part of remittances is hidden in the “net cash exchange” item in the balance of payments and represents around four per cent of GDP.<sup>8</sup> That means that the actual total share of remittances in GDP can reach up to six per cent, ranking North Macedonia among the top countries by this parameter. Broadly speaking, if sources in addition to remittances are considered, such as foreign pensions, salaries, interest or profits of Macedonian residents from abroad, the amount increases to €721.3 million. For the sake of comparison, the net income from foreign direct investment in North Macedonia in 2018 was around €621.9 million. Research shows that most of it goes to consumption (67 per cent), whereas only one per cent goes to investment. Around 10 per cent goes to savings, and 16 per cent to real estate purchases.

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8.  
IMF Country Report No  
14/232, Former Yugoslav  
Republic of Macedonia  
Selected Issues, June  
2014.

### STRUCTURE OF REMITTANCES BY COUNTRY OF ORIGIN (%)

Germany	18.8
USA	15.3
Turkey	12.4
Italy	10.8
Switzerland	9.9
Australia	8.6
Serbia	6.1
Other	18.1

Source: World Bank

### PURPOSE OF REMITTANCES (%)

Consumption	67.0
Property investment	16.0
Professional investment	1.0
Savings	10.0
Debt payment	5.0
Lending	1.0

Source: Petreski M. and Jovanovic B., *Remittances-poverty Nexus in Macedonia* Scholars' Press

The stated amounts are important on a macroeconomic level too. They directly contribute to a decrease in the current account deficit. According to the expenditure method for calculating GDP, total foreign income represents around 8.8 per cent of personal consumption of the population in 2018, which shows its significant influence on GDP as personal consumption is a dominant component of GDP.

The amount of funds transferred from abroad leads to the conclusion that these funds play an important role in the national economy of North Macedonia. However, we should not overlook the increasingly frequent warning signs that this finance source will start to decrease due to the changes in the form of migration, in which currently the migration of entire families is predominant, as well as due to the generational change in the migrant population. Also, the structure of their consumption unequivocally shows that these funds cannot be seen as a generator of future gain and development. That would

require the investment component to be increased considerably. Factors that could help would be those that in general positively influence the investment climate: improvement of the economic environment, macroeconomic and political stability, comparative advantages, moving up competitiveness lists, etc. Other than that, measures need to be adopted and enforced which would target the Macedonian diaspora and make them invest in the home country.

During and shortly after the world economic crisis, in 2009 countries in this region, North Macedonia included, started to experience a number of transfers of entire businesses from abroad. This mostly related to services, and their most mobile and easily transferrable part – information technology and communications. Many companies in this line of work, faced with the need to lower business costs, office space rent and other costs, moved their businesses to developing countries. It turned out that the migrants in these companies were

the best recommendation and main link for them. Many of them thus found a chance to keep their jobs in foreign companies, and return to the home country, whereas some of them were promoted to partners and co-investors in the process. Branches of many companies from Germany, USA and Canada engaged in information technology, logistics, and customer care all came due to these processes. Having in mind the size of the North Macedonian economy on the one hand, and the size of their diaspora on the other hand, we can conclude that the clearly defined strategy on a national level, supported by follow-up action plans of the local administration, with strong cooperation with diaspora associations and the NGO sector, could provide visible macroeconomic results in a very short time.

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This analysis was conducted by the Institute for Development and Innovations (IDI) and prepared by Mr Rade Ciric, Mr Tomislav Despic and Mr Nenad Jevtovic.

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