

Marie Skłodowska-Curie Actions and the issue of unbalanced mobility flows in Europe

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Introduction

A distinguishing factor to entities such as the European Union is the ability for communicating and networking, and thus learning about the characteristics of other countries through one system. For highly educated individuals, doctoral, postdoctoral students, researchers and scientists, there are a wide array of mobility options for different target groups. These come in the form of programs that allow for the opportunity to live, study or work in another country within the European Union. One such program is Marie Skłodowska-Curie Actions (MSCA), one of the most prestigious projects that the European Union offers to the most ambitious and brightest in various study and research fields. Its foundations are built on international cooperation and emphasize the increase of professional and scientific competencies within and outside of Europe.

This report not only delves into the history, characteristics and opportunities that the MSCA offers, but it also touches upon socio-economic issues that arise within the “Widening countries” of the European Union, among which is Slovenia.

The “Widening Fellowships” is a program that was first presented in 2018, in an effort to promote greater participation of countries that have a statistically lower share of the research sector within the European Union. The majority of these countries are facing a number of issues which drive a significant number of highly skilled and highly educated individuals to more developed countries within Europe or around the world. In that vein, the list of Widening countries include the every EU13 country, which are European countries that joined the European Union after 2004. These are: Bulgaria, Croatia, Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Romania, Slovakia and Slovenia. In addition to this, Luxembourg and Portugal are also included for reasons that will be noted below.

Moreover, this report will also focus on the so called “Associated Countries” within the Western Balkans, which are in the process of negotiating their participation in the European Union. Specifically, the increased role their research sectors and research individuals have in the MSCA and other European Union mobility-based programs. Similarly to the Widening countries, this report will also address the issue of brain drain which directly contributes to a great disbalance of emigration *vis-à-vis* immigration in the region. These countries included are Albania, Bosnia and Herzegovina, Montenegro, North Macedonia and Serbia.

The central part of this report includes extensive research and analysis of the current MSCA mobility flows in the Widening countries. This was carried out by the Institute for Slovenian Emigration and Migration within the Scientific Research Center of the Slovenian Academy of Sciences and Arts (ZRC SAZU) in October and November 2021. Interviews which were conducted in the same time period contributed to a better understanding of the current policies that exist within these countries. 13 participants from 11 different countries provided first-hand experiences and elaborations on the problems and potential solutions of future mobility flows within Europe.

The report is followed up by excerpts and summaries of these interviews through questions which include the answers of every participant who was involved in this research. An emphasis was placed on their observations and recommendations on how to better attract highly educated and highly skilled individuals who are studying abroad through the MSCA program back to their home countries. This was done with the intention to build a better base of knowledge on how to balance the outflow of the workforce.

Key words: brain drain, Widening countries, European Union, mobility, MSCA.

CHAPTER I

Foundations of the MSCA

1. History of the MSCA¹

The history of Marie Skłodowska-Curie Actions (MSCA) is one that best represents the European Union's vision for strengthening and improving the education landscape – through mobility as one of the founding freedoms within the Union. The MSCA was created with the intention to attract and attain talented researchers across all disciplines throughout and in Europe.

The programmes' beginnings and name are owed to one woman's dream to pioneer science one hundred years ago. Marie Skłodowska-Curie, the first woman to ever win a Nobel Prize, the only woman to ever win the award twice, and the only person to win it in two scientific fields was the inspiration behind the programmes' development. Her determination, aspirations for science and the betterment of society is the reasoning behind the European Commission's decision to name the scheme in her honour. In 1996, the Commission took a major step in achieving the ambitious goal of combining mobility and knowledge under one umbrella when they created the programme.

The MSCA has evolved considerably over the last 25 years, supporting over 145,000 researchers worldwide and going beyond Europe's borders in doing so, by hosting over 160 nationalities in organisations in over 100 countries. Twelve of the researchers have followed the MSCA's namesake's steps by becoming Nobel laureates. The programme focuses on five main actions. These include the Doctoral Networks, Postdoctoral Fellowships, Staff Exchanges, COFUND, and MSCA and Citizens.

1.1. Doctoral Networks (DN)²

Aside from promoting mobility through research, the MSCA also focuses on collaboration between doctoral programmes, personnel, researchers, and organisations. They achieve this through the Doctoral Networks, whose main objective is to implement doctoral and postdoctoral programmes through enhancing innovation, boosting employability, and training highly-skilled doctoral candidates across international consortia. Aside from research institutes and universities these are open to non-academic organisations like small and medium-sized enterprises (SMEs) and businesses.

Besides standard Doctoral Networks, there is also an incentive to promote specific types of doctorates within the programme. These are:

¹ European Union, Marie Skłodowska-Curie Actions, About MSCA. Available at: <https://ec.europa.eu/research/mariecurieactions/>

² European Union, Marie Skłodowska-Curie Actions, Doctoral Networks. Available at: <https://ec.europa.eu/research/mariecurieactions/actions/doctoral-networks>

1. **Industrial Doctorates.** The main aim of Industrial Doctorates is to train PhD candidates to develop skills outside of academia, in particular in industry and business through doctoral programmes that are supervised by non-academic partners.

2. **Joint Doctorates.** The main aim of Joint Doctorates is to integrate international, inter-sectional, and interdisciplinary collaborations between doctorate candidates and participating institutions to produce a joint doctoral degree or multiple doctoral degrees.

1.2. Postdoctoral Fellowships (PF)³

The inspiration for the MSCA can be found in the Postdoctoral Fellowships. This action aims to motivate PhD-holder researchers to carry out their research activities abroad where they can acquire new skills and knowledge. What makes the MSCA different from other, similar fellowship programmes is the ability for multiple possibilities to expand knowledge, indulge in interdisciplinary training, and exploring different career paths is the unique aspect of mobility through the European Research Area (ERA).

This not only allows for the creation of a single, borderless market for research, innovation and technology, but the addition of the European Charter and Code for Researchers ensures that every European Union Member State provides the right conditions for researchers.

However, the initial drive and creation of the MSCA was not to end the possibilities of the programme at the doorstep of EU Member States. The fellowship targets multiple types of participants and aims to broaden its capabilities and reach. Currently, there are two types of fellowships under the MSCA: European Postdoctoral Fellowships and Global Postdoctoral Fellowships.

◆ *European Postdoctoral Fellowships* are open to researchers who are in or outside of Europe, and who wish to pursue their research or career in a research institute, university or organisation in Europe. By definition, these include European Union Member States⁴ and Associated Countries⁵ under Horizon Europe⁶.

◆ *Global Postdoctoral Fellowships* are open to researchers who wish to pursue their research or career in a research institute, university or organisation in a

³ European Union, Marie Skłodowska-Curie Actions, Postdoctoral Fellowships. Available at: <https://ec.europa.eu/research/mariecurieactions/actions/postdoctoral-fellowships>

⁴ Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain and Sweden.

⁵ Albania, Armenia, Bosnia and Herzegovina, Faroe Islands, Georgia, Iceland, Israel, Montenegro, Morocco, Moldova, North Macedonia, Serbia, Tunisia, Turkey, Ukraine, United Kingdom.

⁶ Horizon Europe is the EU's key funding programme for research and innovation which tackles issues like climate change, helps to achieve the UN's Sustainable Development Goals and boosts the EU's competitiveness and growth worldwide. For more information, visit: https://ec.europa.eu/info/research-and-innovation/funding/funding-opportunities/funding-programmes-and-open-calls/horizon-europe_en

Third Country⁷, with the condition of a mandatory return in the final year of their mobility.

1.3. Staff Exchanges (SE)⁸

To better the overall capacities of universities, research institutions, businesses, SMEs, the MSCA also targets inter-sectorial exchanges of staff members who are involved in research and innovation projects of participating countries and their subsequent organisations in Europe and beyond. This also allows researchers who are looking to expand their knowledge or skills cross-border but do not want to commit to a full fellowship to explore abroad.

1.4. COFUND⁹

The COFUND action provides funding for regional, national and international programmes aimed to train and develop careers by providing and promoting excellent working conditions. As such, the goal of the programme is to provide sustainable training to organisations willing to participate. These are open to government entities, regional authorities, funding agencies, universities, research organisations and enterprises.

Moreover, they cover two programmes:

1. **Doctoral Programmemes.** The Doctoral Programmemes offer research training activities for doctoral candidates who wish to broaden their skills and competencies.

2. **Postdoctoral Programmemes.** The Postdoctoral Programmemes fund individual advanced research training and career development fellowships for postdoctoral researchers.

1.5. MSCA and Citizens¹⁰

The MSCA and Citizens aims to broaden, promote, and increase awareness of the importance and benefits of innovation and research projects. The focus is largely on students, pupils, and family members, which is why it culminates in a *European Researchers' Night*, an annual event that takes place for the very purpose of promoting the ideals, goals, and visions of the MSCA. This event also allows for financial

⁷ Third country can be defined as non-associated countries and international organisations that participate in Horizon Europe project. The full list is available at: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/common/guidance/list-3rd-country-participation_horizon-euratom_en.pdf

⁸ European Union, Marie Skłodowska-Curie Actions, Staff Exchanges. Available at: <https://ec.europa.eu/research/mariecurieactions/actions/staff-exchanges>

⁹ European Union, Marie Skłodowska-Curie Actions, COFUND. Available at: <https://ec.europa.eu/research/mariecurieactions/actions/cofund>

¹⁰ European Union, Marie Skłodowska-Curie Actions, MSCA and Citizens. Available at: <https://ec.europa.eu/research/mariecurieactions/actions/msca-citizens>

contribution to the programme by research organisations, companies, public authorities, foundations, and media organisations who would like to participate.

2. The Widening Fellowship

To better promote competitiveness, innovation, and research capabilities across the ERA, Horizon 2020 made efforts to increase the participation of statistically low R&I performing countries. For this purpose, a new type of MSCA Individual Fellowship was introduced in 2018 – the Widening Fellowship (WF).¹¹

Researchers applying for an Individual Widening Fellowship from MSCA must subsequently be from what is referred to as a “Widening country” within the ERA. The EU13, which are defined as European Union Member States who have joined the Union after 2004, including Portugal and Luxembourg are considered to be part of this definition.

In total, these include Bulgaria, Croatia, Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Luxembourg, Malta, Poland, Portugal, Romania, Slovakia and Slovenia.¹²

The classification and subsequent definition of a “Widening country” dates back to 2014 with the working document from the European Commission titled “Innovation Union competitiveness report 2013”.¹³ It was a comprehensive study led by the Heads of State and Heads of Governments in close collaboration with the Commission in an effort to better understand the innovation, investment and research progress in each European Union country.

In this report, every Member State was individually assessed based on their performance in relation to each other’s “excellence thresholds”. As such, the term “Widening country” was coined and referenced to any Member State whose performance indicator was below 70% in the field of research and innovation (R&I). This included every EU13 Member State, as well as Luxembourg and Portugal.¹⁴ Since then, there has been no similar comprehensive study to better assess the state of R&I in each Member State which is why the aforementioned Member States are considered eligible for the WF.

¹¹ CORDIS, European Commission, Widening Fellowships (2019). Available at: https://cordis.europa.eu/programmeme/id/H2020_WF-03-2020

¹² European Commission, Spreading Excellence and Widening Participation. Available at: <https://ec.europa.eu/programmemes/horizon2020/en/h2020-section/spreading-excellence-and-widening-participation>

¹³ European Commission, Commission Staff Working Document, Innovation Union: Competitiveness report 2013 (2014). Available at: <https://op.europa.eu/en/publication-detail/-/publication/799d9836-1333-4804-835a-6968b35ae619>

¹⁴ European Research Area, Inclusiveness in European R&I Partnership Programme (2020). Available at: <https://www.era-learn.eu/news-events/news/inclusiveness-in-european-r-i-partnership-programme>

On the other hand, Associated Countries to the ERA refer to countries that are not Member States, but are eligible for WF support. These include: Albania, Armenia, Bosnia and Herzegovina, Faroe Islands, North Macedonia, Georgia, Moldova, Montenegro, Serbia, Tunisia, Turkey, and Ukraine.¹⁵

In essence, only European Fellowships as defined under the ERA can qualify for the WF.

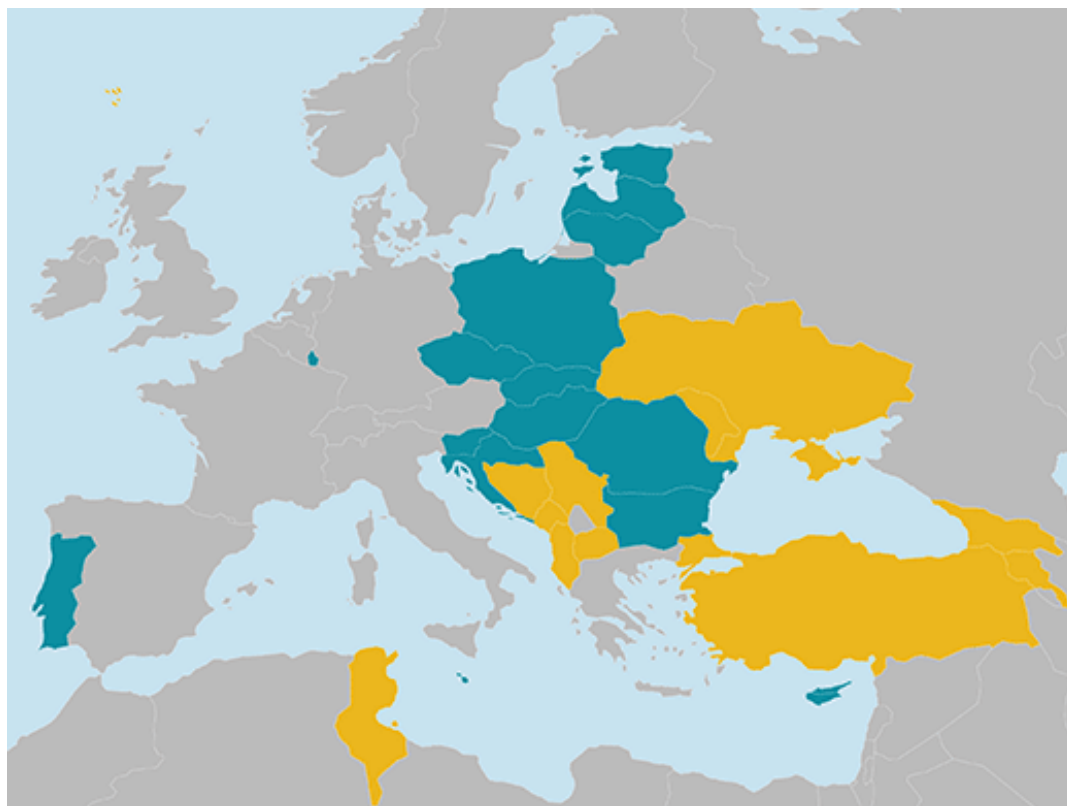


Figure 1. Map of Widening Countries (Source: [Horizon 2020](#))

¹⁵ EU Grants, List of Participating Countries in Horizon Europe (2021). Available at: https://ec.europa.eu/info/funding-tenders/opportunities/docs/2021-2027/common/guidance/list-3rd-country-participation_horizon-euratom_en.pdf

CHAPTER II

Widening Countries (European Union Member States)

BULGARIA

1. Country overview

Bulgaria is located in South-eastern Europe in the Balkan Peninsula with approximately 6,95 million inhabitants. It borders Greece, North Macedonia, Romania and Serbia. The government system is a parliamentary republic, with a president as Head of State and prime minister as Head of Government. Bulgaria joined the European Union in 2007. It is also a member of the North Atlantic Treaty Organization (NATO).¹⁶

Bulgaria has seen massive growth over the last few decades in its economy. Since joining the European Union and gaining access to the Free Market, it has substantially increased its imports and exports. Bulgaria ranks as number 72 in the world in terms of GDP (in US dollars), number 60 in total exports, number 61 in total imports, and its economy is ranked at number 74 in terms of GDP per capita. The most important sectors of its economy are industry, wholesale and retail trade, transport, accommodation and food services.¹⁷

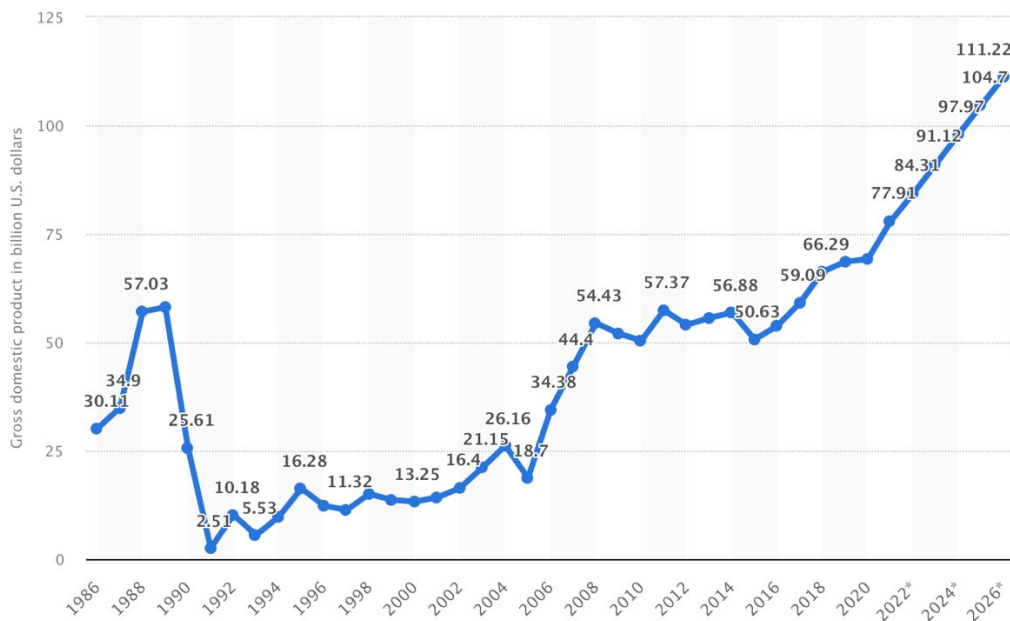


Figure 2. GDP of Bulgaria (Source: [Statista](#))

¹⁶ European Union, Country Profile: Bulgaria. Available at: https://european-union.europa.eu/principles-countries-history/country-profiles/bulgaria_en

¹⁷ OECD Economic Assessment, Bulgaria (2021). Available at: <https://www.oecd.org/economy/surveys/bulgaria-2021-OECD-economic-survey-overview.pdf>

Education-wise, Bulgaria has introduced a number of changes in its education policies, ranging from a more universal, free education to systematic changes to its social and political teaching policies. Higher education in Bulgaria is made available in over 50 universities, polytechnics and research facilities with a relatively low tertiary enrolment rate.¹⁸

Higher education institutions represent the main bodies responsible for research and innovation in the country. These are also done in collaboration with several state bodies such as Ministries and Agencies, making up 18 in total that oversee, change, and apply any changes to the structure of higher education in Bulgaria.¹⁹

2. Brain drain in Bulgaria

Similar to other former-communist countries at the time, Bulgaria faced a period of no emigration for a significant time. By 1988, it was estimated that the Bulgarian population reached 9 million people. It was only when the country transitioned with the political changes of 1989, that Bulgaria saw a massive spike in migration, which has gradually been decreasing since then.

In fact, three periods of heavy emigration can be noted in Bulgaria's history.²⁰

- ◆ The first was after the fall of the communist regime. During this time it's estimated that Bulgaria's population reduced massively. In fact, during the period between 1989-1992, over 500,000 Bulgarian citizens emigrated the country. A great number of these were of Turkish origin who wished to migrate back to where their families originally came from. The reasons were mainly political, and resulted in a population decrease as large as over 843,000 people.
- ◆ The second period involves an emigration period of much smaller proportions, however one that still contributed to the declining population in the country. Since 1992, it's estimated that between 40,000-60,000 people left Bulgaria. The biggest population reduction came after the liberalisation of passport regulations in 2001 with the Schengen agreement, which gave way to almost 250,000 people leaving the country by the early 2000s. In 2002, it's estimated that between 5,000-6,000 Bulgarians emigrated to the United States alone. In the same year, over 3,0000 people were granted green cards, making it the highest-ranking European country in terms of green cards issued per inhabitant at the time.²¹

¹⁸ UNESCO, Country Information Gathering Template for the Global Monitoring Program 2021, Country Profile: Bulgaria (2021). Available at: <https://gem-report-2020.unesco.org/wp-content/uploads/2021/02/Bulgaria.pdf>

¹⁹ European Union, Private Sector Interaction in the Decision Making Processes of Public Research Policies, Country Profile: Bulgaria (2013). Available at: https://ec.europa.eu/invest-in-research/pdf/download_en/psi_countryprofile_bulgaria.pdf

²⁰ Rossista Chobanova, Flows in Europe - Bulgaria, Munich Personal RePEc Archive (2003). Available at: <https://mpira.ub.uni-muenchen.de/64432/>

²¹ OECD, Trends in International Migration Report (2004). Available at: https://www.oecd-ilibrary.org/social-issues-migration-health/trends-in-international-migration-2004_migr_outlook-2004-en

- ◆ The third period involves Bulgaria’s membership to the European Union in 2007, which in turn provided visa-free travel and temporary stay, as well as access to the Free Market. As such, this is also a wave that has yet to be accurately assessed, since no official information exists from any governmental body. However, what this trend does indicate is a high number of students and young people leaving Bulgaria in search for a better life in the European Union.

The emigration is interestingly targeted in a select few countries. Germany is undoubtedly a favourite emigration destination for Bulgarians, with over 400,000 living and working there. What’s more, this number is estimated to grow between 30,000-40,000 people per year. Another favoured destination is the Mediterranean, which is evenly split between countries like Greece, Italy and Spain. As of 2019, the most popular destination for Bulgarians (in particular students and those who have tertiary-level education) is Belgium.

On the other hand, outside of the European Union, the top destinations for Bulgarians is the United States and Canada.²²

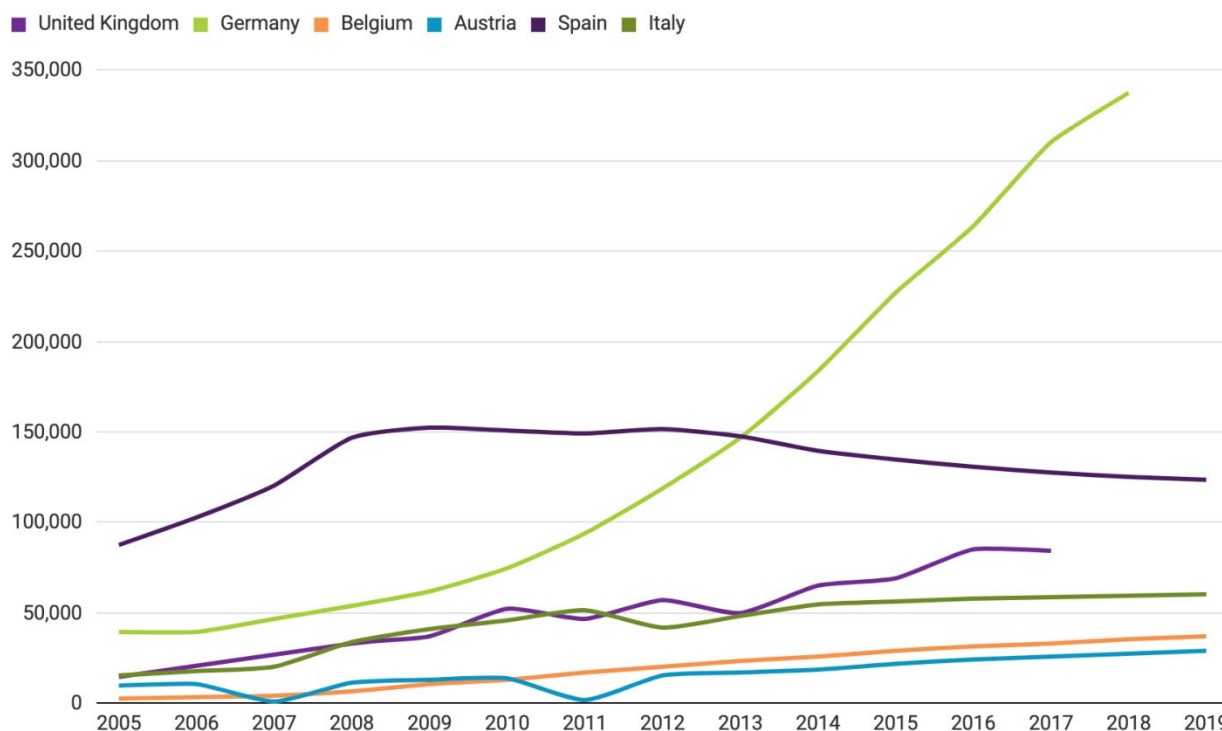


Figure 3. Total emigration numbers for Bulgarians in the European Union. (Source: [National Statistical Institute of Bulgaria](#))

²² Evgeniy Kandilarov, Nearly 2.5 Million Bulgarians Live Abroad, China-CEE Institute (2021). Available at: <https://china-cee.eu/wp-content/uploads/2019/12/2019s1101%EF%BC%8815Bulgaria.pdf>

CROATIA

1. Country overview

Croatia is a country located in Central Europe in the Balkan Peninsula with approximately 4,07 million inhabitants. It borders Bosnia and Herzegovina, Hungary, Montenegro, Serbia and Slovenia. The governmental system is a parliamentary republic, with a president as Head of State and prime minister as Head of Government. It has been a member of the European Union since 2013 and it's also a member of NATO.²³

Croatia has seen a massive improvement in its economy following its integration into the European Union and has noted a steady increase in its exports since the financial crisis. Croatia ranks as number 78 in the world in terms of GDP (in US dollars), number 75 in total exports, number 68 in total imports, and its economy is ranked at number 59 in terms of GDP per capita. Croatia's most vital economic sectors include wholesale and retail trade, transport, and accommodation and food services.²⁴

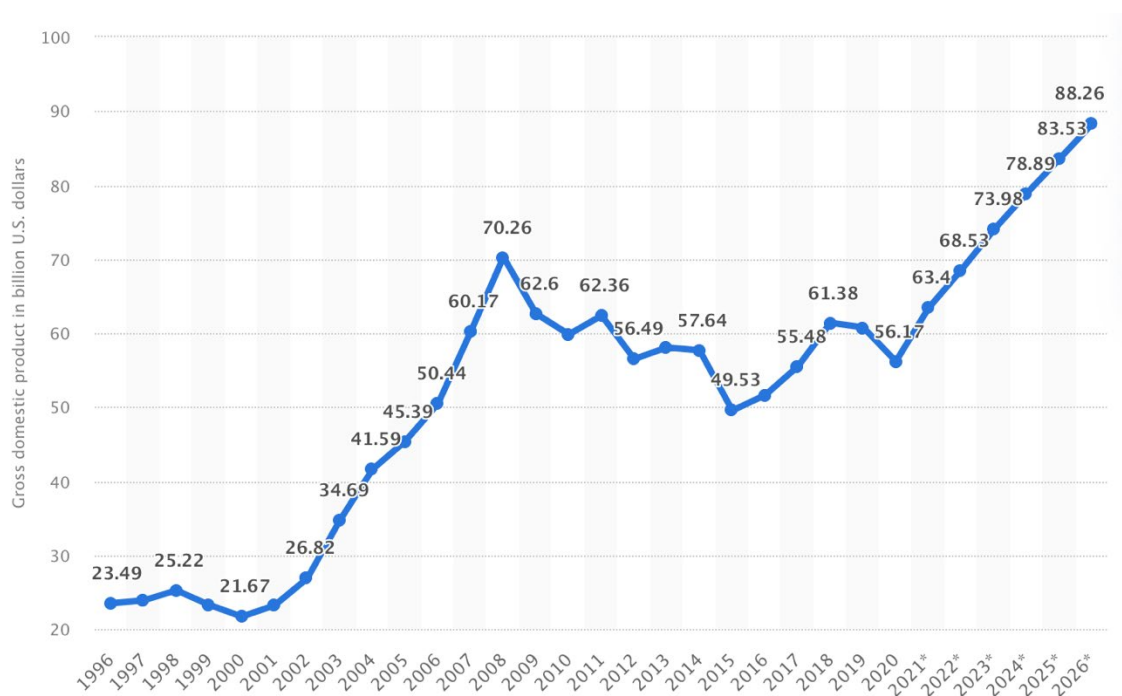


Figure 4. GDP in Croatia (Source: [Statista](#))

When it comes to education, Croatia's economy has heavily influenced the way it has shaped its education policies. Following the rapid decrease of GDP after the financial crisis, there existed a great deal of policies aiming to change the education landscape, including heavy investments in the field of education. Croatia also has a long

²³ European Union, Country Profile: Croatia. Available at: https://european-union.europa.eu/principles-countries-history/country-profiles/croatia_en

²⁴ The Observatory of Economic Complexity, Country Profile: Croatia. Available at: <https://oec.world/en/profile/country/hrv>

history of a solid education system and academic expertise, particularly when it comes to tertiary education. Croatia has more than 23 higher education institutions and universities.²⁵

Any research or scientific activities in Croatia are governed and carried out by five different types of institutions: (a) public institutes, (b) higher education institutions, (c) legal research entities such as the Croatian Academy of Arts and Sciences, (d) independent commercial institutes and (e) corporate industrial institutes. The majority of any research or scientific projects are carried out by higher education institutions and public institutes whose main focus is the betterment of any and all political, social, and economic pillars in Croatia.²⁶

2. Brain drain in Croatia

While Croatia has had occasional periods of emigration, throughout its history, net migration has been relatively stable due to flows of immigration into the country. However, there are three significant waves of emigration that can be marked in Croatia's history.²⁷

- ◆ The first wave dates back to when Croatia was still part of Yugoslavia. Primarily referred to as »economic emigrants«, this notes what is now known as the »old Croat« population that moved abroad in the 1960s to Western Europe, the United States, as well as North Africa. While the reasons vary individually, the main reason was finding better employment and wages.
- ◆ The second wave follows the break-up of Yugoslavia and subsequent war-torn atmosphere that in the 1990s, resulted in heavy migration in the form of refugees who were seeking better lives for themselves and their families. Most of the emigration at this time was to Western European countries, the United States, Canada, Australia as well as New Zealand.
- ◆ The third wave of emigration in Croatia is stark in its reasons and intensity. Since 2009, net migration in Croatia has quadrupled from its peak in the early 2000s, going from -4884 to -17,945.²⁸ This is due to a political and financial crisis in Croatia, as well as lesser restrictions due to the country joining the European Union.

While official numbers point to around 100,000 emigrants in total between the periods of 2013-2016, some sources (including official data in countries where Croatians

²⁵ Chris Duke, Abrar Hasan, Paul Cappon, Werner Meissner, Hilary Metcalf and Don Thornhil, OECD Reviews of Tertiary Education: Croatia (2009). Available at: <https://www.oecd.org/countries/croatia/38814548.pdf>

²⁶ European Union, Private Sector Interaction in the Decision Making Processes of Public Research Policies, Country Profile: Croatia (2013). Available at: https://ec.europa.eu/invest-in-research/pdf/download_en/psi_countryprofile_croatia.pdf

²⁷ Total Croatia, Croatian Diaspora Throughout History (2019). Available at: <https://www.total-croatia.com/croatian-diaspora/>

²⁸ Miroslav Krleža Institute of Lexicography. Available at: <http://croatia.eu/article.php?lang=2id=17>

are temporarily living or working) point to that number reaching as high as over 250,000 people. In fact, some estimate that Croatia has had a severe loss of population, especially young and educated since the start of the new millenium, at close to 2.5 million Croatians emigrating completely out of the country.²⁹

This can be seen in domestic education statistics, which points to fewer and fewer Croatians attending schooling in the country. Primary education attendance has gone down since the mid 2010s, which leads to less people also attending secondary education. Only 30% of 30-34 year olds have attained some level of tieratry education, which is a much lower percentage than the European Union average (39%). Those who are educated, tend to leave for other European Union countries.³⁰ The most popular desination countries for Croatians as of 2019 are Germany, Austria, and Ireland.

While no official studies or research has been conducted as to the reasons why Croatians leave the country, there are some several independent surveys. In 2018, Index.hr³¹ condudcted theirs in an effort to understand why Croatians are reluctant to return to the country after leaving abroad. It surveyed over 10,000 people and the results pointed to several PUSH and PULL factors.³²

These included corruption, heavy nationalism coupled with little to no active politics for the betterment of Croatian society, primitivism, as well as religious chaivinism. Moreover, the lack of adequate living and working conditions, no interest in improving the education system and low wages were also major reasons as to why Croatians moved abroad. What's more, a great number of those surveyed were between the ages of 24-40, and they did not see themselves ever moving back to Croatia.³³

²⁹ Dragomir Sundać, The Impact of Brain Drain on the Competitiveness of the Croatian Economy (2016). Available at: https://www.researchgate.net/publication/314100306_The_Impact_of_Brain_Drain_on_the_Competitiveness_of_the_Croatian_Economy

³⁰ Caroline Hornstein Tomić, Karin Taylor, Youth unemployment, the brain drain and education policy in Croatia: A call for joining forces and for new visions (2018). Available at: <https://journals.sagepub.com/doi/pdf/10.1177/1478210317751267>

³¹ Index.hr is an independent online Croatian newspaper that covers various topics of interest to the Croatian public. For more information, see: <http://arhiva.nacional.hr/clanak/14151/matija-babic-tvorac-prvog-hrvatskog-dnevnog-tabloida>

³² PUSH and PULL factors are defined as reasons as to why people choose to emigrate from their home country. More information is available at: https://ec.europa.eu/home-affairs/pages/glossary/push-pull-factor_en

³³ Index.hr Survey (2018). Available at: <https://www.index.hr/vijesti/clanak/zasto-ljudi-odlaze-iz-hrvatske-zbog-vjerske-zadrnosti-korupcije-i-uhljeba/1018200.aspx>

CYPRUS

1. Country overview

Cyprus is an island country located in the Eastern Mediterranean Sea with approximately 1,20 million inhabitants. It borders Turkey, Syria, and Lebanon. The government system is a presidential republic, with the president acting as both Head of State and Head of Government. The Cypriot government is split between two de facto divisions – the Greek and Turkish regions, however it functions as one union. Cyprus is a member of the European Union as of 2004.³⁴

Cyprus has had a relatively steady and stable economy for most of its history with a large drop in tourism, shipping and overall business happening with the economic recession and shift to the Euro. Since then, the economy has struggled in a few areas, which has led to an increase of investments since 2012. Cyprus ranks as number 104 in the world in terms of GDP (in US dollars), number 120 in total exports, number 90 in total imports, and its economy is ranked at number 37 in terms of GDP per capita. The most important sectors in the Cypriot economy are wholesale and retail trade, transport, and accommodation and food services.³⁵

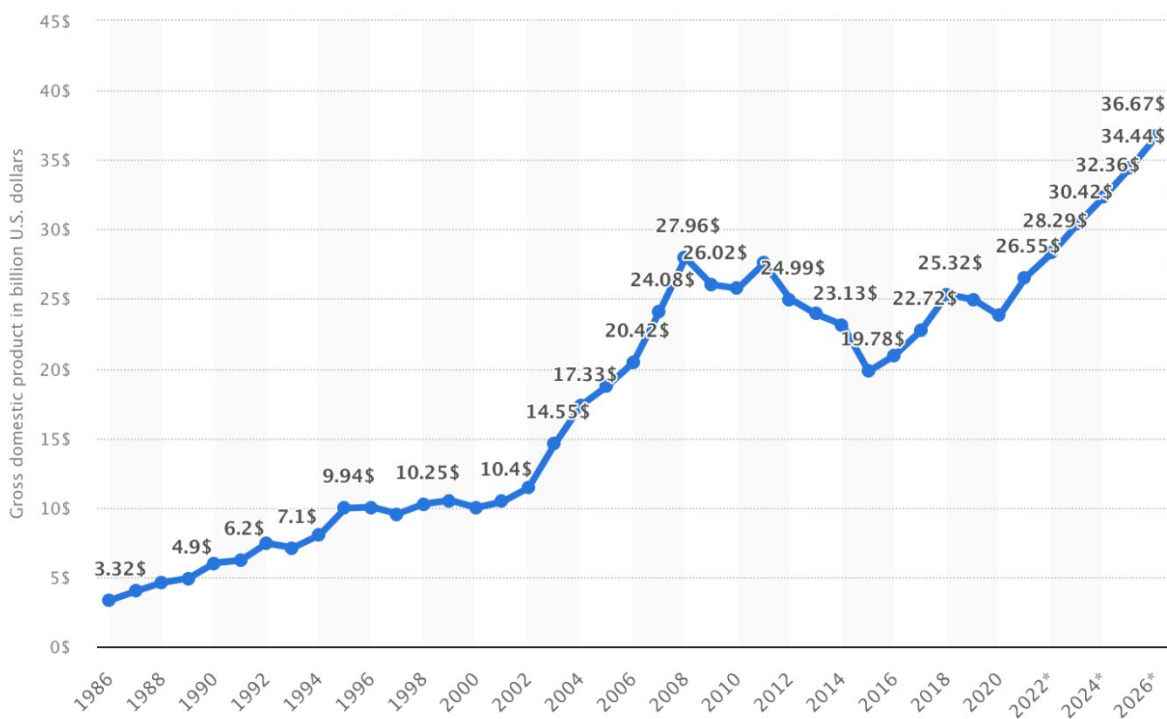


Figure 5. GDP of Cyprus (Source: Statista)

³⁴ European Union, Country Profile: Cyprus. Available at: https://european-union.europa.eu/principles-countries-history/country-profiles/cyprus_en

³⁵ University of Nicosia Library, Cyprus and the EU. Available at: <https://www.library.unic.ac.cy/cyprus-and-eu-o>

Education in Cyprus has had a massive overreach for many years, with a big accent on developing and establishing a solid education system happening in the late 1980s. Since then and the founding of the University of Cyprus, a great number of policies have gone into developing, financing, and improving the education system in the country. Cyprus harbours over 20 universities and higher education institutions, all aimed to better facilitate the overall research and innovation sector in the country.

The majority of the tertiary education, research and innovation sectors are publicly funded, with a focus on specific sectors. They include Cyprus Institute of Neurology and Genetics, the State General Laboratory, the Agriculture Research Institute, the Cyprus Research Centre, the Department of Fisheries and Marine Research and the Geological Survey Department.³⁶

2. Brain drain in Cyprus

Historically, Cyprus has had significant migration periods in its history. While figures are skewed and mostly unaccounted for in official sources, emigration from Cyprus can be categorised in three distinct periods.³⁷

- ◆ The first period is unique in that it includes both Greek Cypriots and Turk Cypriots in the mid to late 1970s. Most emigrants during this time are individuals or small families who are joining their close or extended relatives abroad who have already established communities in other countries between the 1940s, 1950s and 1960s. The major destination countries during this time are the United Kingdom, Canada, Greece, Turkey, South Africa, Australia, and New Zealand.
- ◆ The second period is akin to more classic economic migration. It features temporary travel and work abroad between 1980-1990. What is fascinating is that most people leaving targeted countries that were known to be in the then Eastern Bloc of Europe such as Bulgaria, Czechoslovakia, as well as countries in the Arabian Gulf such as Libya.

While no official figures exist today, it's estimated that around 20% of all students who have finished university abroad will not return to Cyprus, and those that have finished their studies in Cyprus will choose to move. This was supported in a study done by the Council of Europe that targeted the overall youth policy in Cyprus and how current policies were affecting the decisions and lives for people aged 18-30.³⁸

In it, a number of Cypriot young people, including students and researchers, were asked about the reasons why they would not choose to live in Cyprus, and to those that

³⁶ European Union, Private Sector Interaction in the Decision Making Processes of Public Research Policies Country Profile: Cyprus (2013). Available at: https://ec.europa.eu/invest-in-research/pdf/download_en/psi_countryprofile_cyprus.pdf

³⁷ Jannine Teerling, Russel King, Cyprus as a Multi-Diasporic Space (2011). Available at:

https://www.researchgate.net/publication/262258171_Cyprus_as_a_Multi-Diasporic_Space

³⁸ Council of Europe, Youth Policy in Cyprus, Conclusions of the Council of Europe (2009). Available from: https://www.youthpolicy.org/national/Cyprus_2007_Youth_Policy_Review.pdf

were already living abroad, the reasons why they would not return. The answers ranged from the economic instability of the country, having difficulties in finding the right job, not wanting to settle down and start a family in Cyprus, not having enough financial independence and personal reasons such as starting a family abroad.

The only official data with regards to emigration in Cyprus can be tracked back to the Statistical Service of Cyprus and the populous census in 2011. It shows that over 500,000 Cypriots live abroad, which totals to half the population in the country by official numbers. At the same time, Cyprus is a country with heavy low-labour migration from other countries, with over 180,000 estimated to be working, which points to even less people living in the country. However, these numbers are simply taken from other statistical sources of Cypriot communities worldwide rather than government research.

What is relatively known are the countries that Cypriots emigrate to. These include countries that have large Cypriot-established communities such as the United Kingdom, the United States, Australia, New Zealand and some East African countries. In that regard, they are some of the most diverse emigrants from within the European Union.³⁹

³⁹ Statistical Service of Cyprus, Cyprus Population Census 2011 (2011). Available at: <http://ghdx.healthdata.org/organizations/statistical-service-cyprus-cystat>

CZECHIA

1. Country overview

Czechia, or the Czech Republic, is a country located in Central Europe with approximately 10,7 million inhabitants. It borders Poland, Germany, Austria, and Slovakia. The government system is a parliamentary republic, with a president as Head of State and prime minister as Head of Government. In 2004, Czechia joined the European Union. It is also a member of NATO.⁴⁰

After the fall of Czechoslovakia, Czechia transformed from a planned economy to a market economy and quickly becoming one of the best-performing countries economically in all of Central Europe. Czechia ranks as number 45 in the world in terms of GDP (in US dollars), number 27 in total exports, number 29 in total imports, and its economy is ranked at number 41 in terms of GDP per capita. The majority of Czechia's economy focuses on industry, wholesale and retail trade, transport, accommodation and food services and public administration.⁴¹

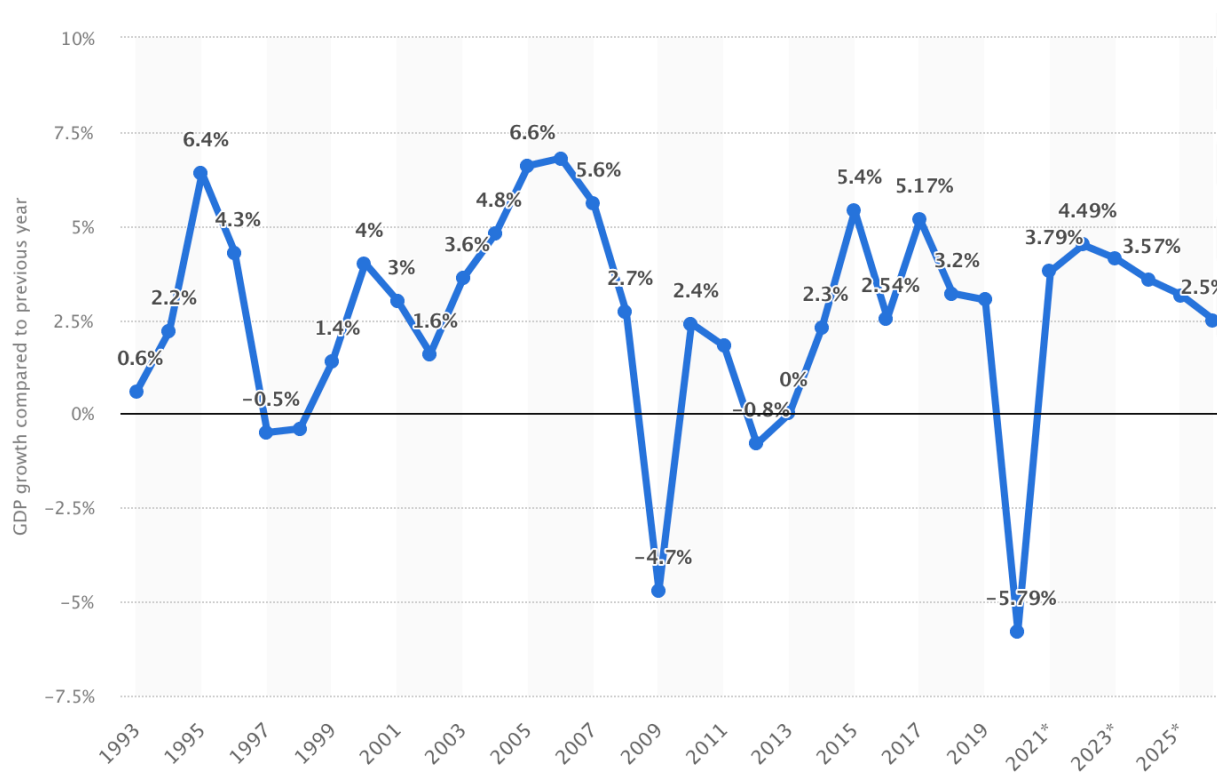


Figure 6. GDP of Czechia (Source: [Statista](#))

⁴⁰ European Union, Country Profile: Czechia. Available at: https://european-union.europa.eu/principles-countries-history/country-profiles/czechia_en

⁴¹ OECD, Czech Republic Economic Snapshot (2020). Available at: <https://www.oecd.org/economy/czech-republic-economic-snapshot/>

Czechia has a rich history of quality education policies and offering high-quality education, even establishing the first ever university in Central Europe in the 1300s. Even before its independence, Czechia ranked as one of the highest-performing countries in terms of education on a global scale. Czechia is one of the leaders in the region of Central Europe with respect to key scientific and technological innovations. It has over 28 universities and higher education institutions.

Any research and innovation in Czechia is performed by universities, the instituted of the Academy of Sciences, as well as private sector organisations. The Academy of Sciences is the leading non-university public institution that has a key position in overseeing and developing various research and innovation programmes. Moreover, Czechia has a great number of tech-focused organisations and businesses whose focus is mainly technological advancements and services. All of these contribute greatly to the research and innovation sector in the country.⁴²

2. Brain drain in Czechia

Czechia has experienced the lowest level of brain drain in comparison to most other Central and Eastern European states. The highest number of emigration comes between 1980-1999, where the fall of communism spurred on the break-up of Czechoslovakia, which in turn brought a more drastic emigration pattern for the country. Still, that number was significantly less than most other ex-communist countries in the same period. For example, it's estimated that between the years 1988-1994, only 4-8% of people left to work or live abroad temporarily.

As far as long-term migration is concerned, that number is a little higher, with estimates between 5-10% leaving the country overall in the same period. In fact, in a comprehensive study done by independent researchers with the financial support of the European Commission that targeted migration patterns for Central and Eastern Europe, the majority of Czechs did not want to leave the country at all.⁴³

Where Czechia did experience a more significant brain drain phenomenon was after it joined the European Union. In 2005, close to 60% of all students partook in some form of state or private-sponsored scholarship program to study and work abroad. The most common countries included the United Kingdom, Germany, France as well as Austria. While no official records exist, a number of studies estimate that brain circulation estimates do not exceed to the point where this period could be defined as a "brain drain" for Czechia. Moreover, a vast majority of that percentage returned after spending some years abroad to continue their studies or work in Czechia.⁴⁴

⁴² European Union, Private Sector Interaction in the Decision Making Processes of Public Research Policies Country Profile: Czech Republic (2013). Available at: https://ec.europa.eu/invest-in-research/pdf/download_en/psi_countryprofile_czechrepublic.pdf

⁴³ Daniela Bobeva, Brain Drain from Central and Eastern Europe, Munich Personal RePEc Archive (1997). Available at: https://mpra.ub.uni-muenchen.de/61505/1/MPRA_paper_61505.pdf

⁴⁴ Czech Journal of International Relations, Tertiary Scholarship Schemes as Institutionalised Migration of Highly Skilled Labour: The Mixed Evidence of Development Effectiveness from the Czech Republic (2018). Available at: <https://mv.iir.cz/article/view/1584>

In fact, Czechia is one of the few countries that has seen an increase of brain gain since the mid 2000s. The developing IT sector, coupled with business services, outsourcing and a stable political and financial background in comparison to most other neighbouring countries (excluding Germany) has made it one of the highest-educated countries in Central Europe, producing over 80,000 graduates each year which is above the EU average comparatively. Moreover, close to 40,000 foreign students enrol in Czech universities and other higher education facilities annually, which means it's one of the most sought-after destinations for other European students.⁴⁵

⁴⁵ Innovantage, The 4th Industrial Revolution in Central and Eastern Europe (2018). Available at: <https://www.adecco.si/wp-content/uploads/2018/07/Inovantage-June-18th-Adecco.pdf>

ESTONIA

1. Country overview

Estonia is a country located in Eastern Europe with approximately 1,3 million inhabitants. It borders Russia, Latvia and Finland. The government system is a parliamentary republic, with a president as Head of Government and prime minister as Head of State. Estonia joined the European Union in 2004 and it is also a member of NATO.⁴⁶

Economically wise, Estonia is considered to be one of few e-countries in the world. The IT sector in Estonia is one of the most developed in the world, with massive technological advancements that have contributed to it becoming one of the IT pillars globally. Estonia ranks as number 98 in the world in terms of GDP (in US dollars), number 76 in total exports, number 78 in total imports, and its economy is ranked at number 39 in terms of GDP per capita, making it one of the highest in all of Europe. Most of the economy relies on wholesale and retail trade, transport, as well as accommodation and food services.⁴⁷

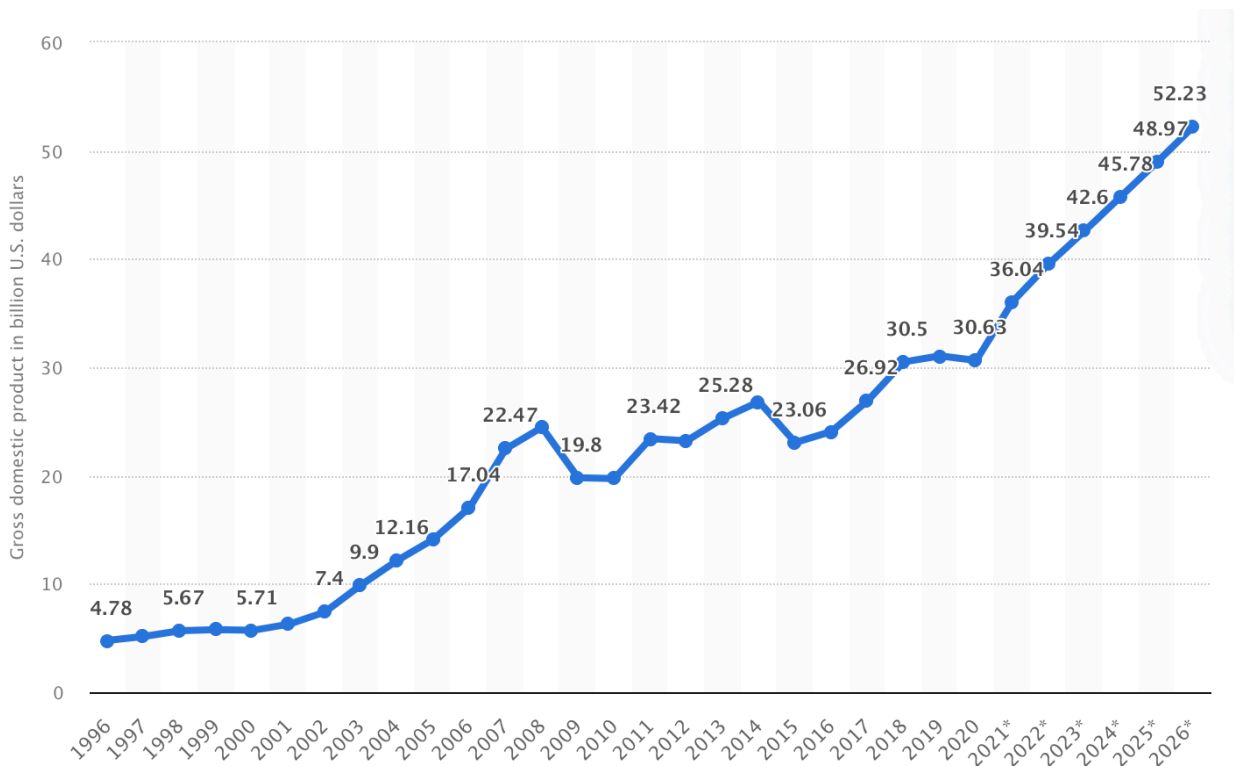


Figure 7. GDP of Estonia (Source: [Statista](#))

⁴⁶ European Union, Country Profile: Estonia. Available at: https://european-union.europa.eu/principles-countries-history/country-profiles/estonia_en

⁴⁷ OECD, Estonia Economic Snapshot (2020). Available at: <https://www.oecd.org/economy/estonia-economic-snapshot/>

Estonia consistently ranks above average when it comes to individual student performance worldwide. The education system, apart from being unique in its online availability consists of high-quality curriculums, free access to learning and high proficiency levels in multiple areas of education on an individual basis. As such, its schooling system is deemed comprehensive, high-quality and thorough.⁴⁸

Most research and innovation is governed by universities and independent research centres. The Estonian Academy of Sciences does not undertake research independently, rather through other centres of innovation. Most policies with regards to any research and innovation target high-tech enterprises which tackle a diverse research landscape. The Estonian Research Council marks the main body that finances, oversees and develops any research programmes and further collaborates and cooperates with other institutions. This is also the reason why Estonia is ranked a lot higher than most of its neighbouring countries and has the highest percentage of researchers and PhD students in the region.⁴⁹

2. Brain drain in Estonia

Estonia is a country that has had a unique emigration journey in comparison to most other European Union Member States. While Estonia was mainly a country of emigrants during the Soviet Union (in particular native Estonians), after gaining its independence, there was a shift in the ethnical landscape of emigration.

The emigration waves in Estonia can be classified into two periods.⁵⁰

- ◆ The first is in the early 1990s, where a large surge of return migration occurred for Russian Estonians and native Russians who fled back to Russia. Native Estonians on the other hand found Finland as the destination to emigrate to as the closest geographically and linguistically. There are no correct numbers, however estimates assume that it's between 50,000-100,000 people during this time.
- ◆ The second is through the European Union's enlargement initiative, which also included Estonia after it joined the Union in 2004. This also marks the biggest emigration wave for Estonia. Between the year 2000-2008, the majority of people emigrating from Estonia reached in the hundreds of thousands. In Europe, the major destinations included the United Kingdom, Ireland and Sweden, while worldwide, it was the United States, Canada, and Australia.

⁴⁸ OECD, Education Policy Outlook Snapshot, Country: Estonia (2018). Available at:

<https://www.oecd.org/education/highlightsEstonia.htm>

⁴⁹ Research Estonia, Estonia – A Place for Science (2019). Available at: <http://researchinestonia.eu/rwp/wp-content/uploads/2017/04/Estonia-a-place-for-science-2017-1-1.pdf>

⁵⁰ Estonian Migration database (2021). Available at:

<http://andmebaas.stat.ee/Index.aspx?DataSetCode=RVR03&lang=en>

Since the mid 2010s however, Estonia has marked a turnaround. 2015 marked the first year in 25 years where the number of immigrants to Estonia exceeded the number of emigrants.⁵¹

This is thanks to government recognition and policies that specifically targeted the issue of emigration. Moreover, Estonia has been one of few Eastern European countries that have broadened their reach for immigration, even amending the Aliens Act five times since 2008 to provide better living and working conditions to those wishing to live in Estonia. This, coupled with projects such as the Estonian Start-up Visa⁵², simplified visa procedures, managing digital businesses from anywhere in the world, online universities and allowing government services to non-residents has made it possible for investors, students, researchers, and foreign talent to work and live in the country. As of 2019, close to 200,000 foreign-born people live in Estonia. That means that nearly 15% of the total population in Estonia does not hold Estonian citizenship, making it one of the largest foreign-born residential countries in the world.⁵³

Moreover, government programs that have had heavy accents on returning highly-educated students and workers to Estonia have marked success in the past decade. Estonia has had numerous programs that have targeted the diaspora and placed emphasis on various financial advantages that Estonians could potentially achieve when they would move back home. These include programs like the Compatriots Program⁵⁴, Eesti People to People⁵⁵, the Career Hunt Initiative⁵⁶ and more.

⁵¹ Estonia at the Age of Migration (2017). Available at: <https://2017.inimareng.ee/en/estonia-at-the-age-of-migration/>

⁵² The Estonian Start-up Visa is a government program that helps non-EU businesses and founders start an enterprise or SME in Estonia without the entry barriers of the European Union. For more information, visit: <https://startupestonia.ee/visa>

⁵³ Eurostat, Migration and Migrant Population Statistics (2021). Available at: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Migration_and_migrant_population_statistics#Migrant_population:_22.3_million_non-EU_citizens_living_in_the_EU_on_1_January_2018

⁵⁴ The Compatriots Program is a government-sponsored programme by the Ministry of Education and Ministry of Culture that aims to promote, develop and archive Estonian achievements, culture and tradition through various financial grants for Estonians who live abroad. For more information, visit: <http://haridus.archimedes.ee/en/compatriots-programme>

⁵⁵ Eesti People to People is a EU-sponsored programme that aims at giving financial grants to returning researchers. For more information, visit: <https://annalindhfoundation.org/members/eesti-people-people>

⁵⁶ Career Hunt Initiative is a government-sponsored programme that provides all-expense paid trip to Estonia for IT specialists looking to move to the country. For more information, visit: <https://investinestonia.com/career-hunt-brings-tech-talent-from-across-the-world-to-estonian-it-companies/>

HUNGARY

1. Country overview

Hungary is a country located in Central Europe with approximately 9,7 million inhabitants. It borders Austria, Croatia, Romania, Serbia, Slovakia, Slovenia and Ukraine. The government system is a parliamentary republic, with a president as Head of State, and prime minister as Head of Government. It is a member of the European Union as of 2004, as well as a member of NATO.⁵⁷

Hungary promotes a strong market economy, with a strong emphasis on industry and goods. Since its independence, it has employed several measures to help with stabilising and developing the economy and has since increased its place in the world of economic rankings. Hungary ranks as number 55 in the world in terms of GDP (in US dollars), number 33 in total exports, number 34 in total imports, and its economy is ranked at number 54 in terms of GDP per capita. Its focus is primarily in the industry sector, wholesale and retail trade as well as transport.⁵⁸

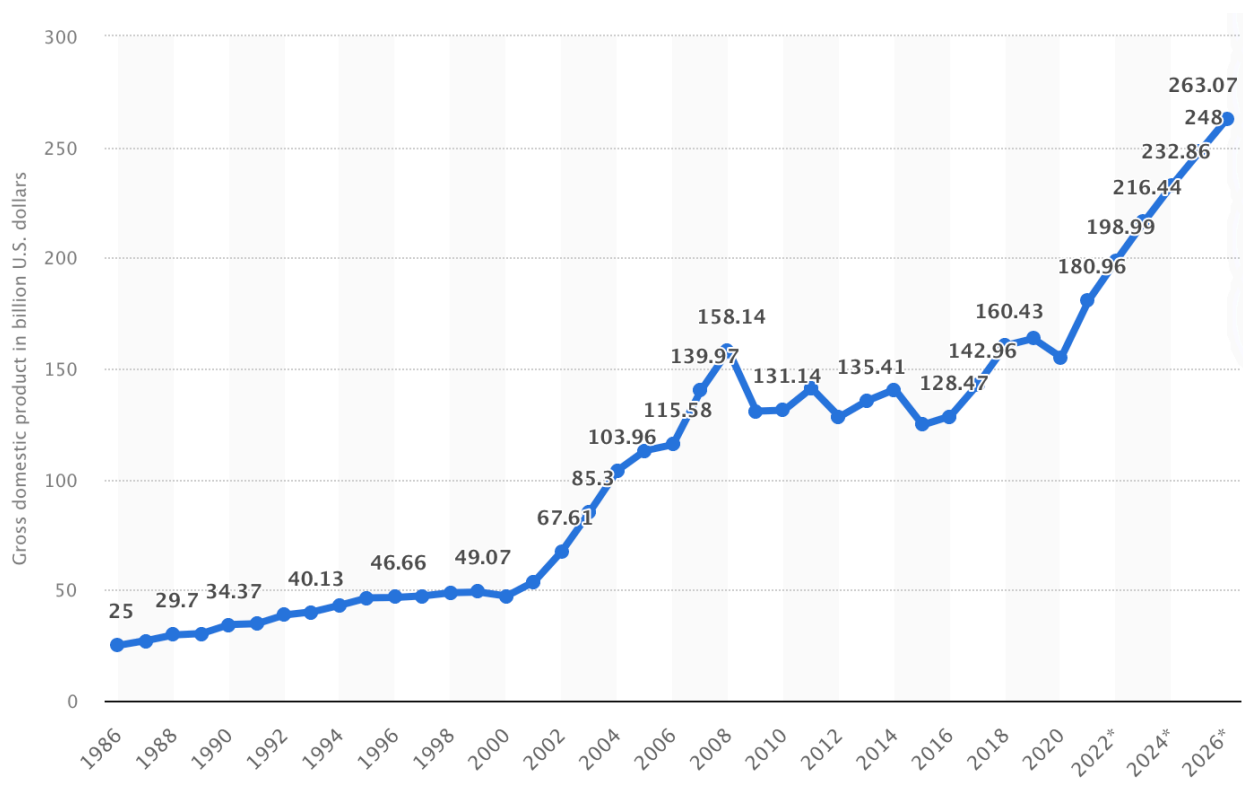


Figure 8. GDP of Hungary (Source: [Statista](#))

⁵⁷ European Union, Country Profile: Hungary. Available at: https://european-union.europa.eu/principles-countries-history/country-profiles/hungary_en

⁵⁸ OECD Economic Surveys, Overview: Hungary (2021). Available at: <https://www.oecd.org/economy/surveys/Hungary-2021-OECD-economic-survey-overview.pdf>

Education-wise, Hungary's education system ranks low when it comes to individual performances per student on a secondary and tertiary level. It has one of the lowest literary attainment rates in the European Union, with a mostly unchanged performance in most fields of study both a secondary and tertiary level. With that said, students that leave Hungary tend to outperform their peers. It has over 67 universities and research institutions.⁵⁹

The Hungarian Academy of Sciences is a major and vital organization that oversees, promotes and develops research and innovation in the country. Within the Academy, 37 research institutes and support institutions such as archives, information systems and libraries also exist. Moreover, a number of councils and committees exist that oversee the research, innovation and investment sectors of the country. The most important publicly funded research organization in the field of applied research is the Bay Zoltán Foundation that develops and adapts technologies to better improve the competitiveness of the Hungarian economy. In addition to this, a number of organisations both non-profit and governmental, help aid in the field of research.⁶⁰

2. Brain drain in Hungary

Hungary has been part of many historic emigration movements throughout the 20th century.

While record keeping is low, the period can mostly be traced down to three significant periods: the 1929-1932 world economic crisis, the communist takeover in the 1940s, as well as the anti-communist revolution in 1956 that led to a mass exodus of highly-skilled students, researchers and educated professionals.

After the liberalisation of the economy and subsequent fall of the Iron Curtain, another wave of emigration happened in Hungary. The most popular destinations at this time were Germany, Austria and the United States since they offered easier visa qualifications than other countries. This was only exacerbated with the European Union accession in 2004 with regards to skilled labour and students. The first official peak of emigration was recorded in 2008, whereby over an estimated 125,000 people left Hungary.⁶¹

⁵⁹ OECD, Education Policy Outlook, Country: Hungary (2021). Available at: <https://www.oecd.org/education/Hungary-Profile.pdf>

⁶⁰ European Union, Private Sector Interaction in the Decision Making Processes of Public Research Policies Country Profile: Hungary (2013). Available at: https://ec.europa.eu/invest-in-research/pdf/download_en/psi_countryprofile_hungary.pdf

⁶¹ Eurostat, Migration and Emigration Statistics (2012). Available at: <http://appsso.eurostat.ec.europa.eu/nui/submitViewTableAction.do>

Since then, the majority of highly-educated Hungarians prefer the United Kingdom whereas seasonal workers and lower-wage employment is generally found in other European countries such as Germany, as well as the United States and Canada.⁶²

The number of Hungarians who have emigrated in the past decade is estimated to be at 1 million people. This counts for both temporary and permanent emigration. Thanks to statistical information from other countries, around 600,000 Hungarians are living across Europe. In fact, between 2006-2015, an average of 65,000 people have been leaving the country on an annual basis. Estimates show that 85,000 Hungarians have left Hungary since the country joined the European Union, which points to nearly 900,000 Hungarians no longer living in the country.⁶³

The main reasons as to why people choose to leave the country are not dissimilar to other countries that are in poor economic and political standing. Generally, people who wish to emigrate or have already emigrated do so because they are looking for better wages, a more diverse working environment, stable political climate, as well as better living standards.⁶⁴

Interestingly enough, this is still a relatively low number in comparison to most other European countries. The reasons why Hungary does not experience a great deal of brain drain is two-fold.⁶⁵

Firstly, due to the socio-economic situation in the country, not many young people can afford to move abroad temporarily or permanently. This points to a bigger problem in Hungary, including but not limited to poor education, low wages, inadequate living conditions and high unemployment rates which in turn does not allow most people to leave the country without significant financial aid.

Secondly, Hungary has a very high networking scheme. Coupled with the fact that personal remittances and individual aid provide a great deal of finances to the country, it's estimated that over 50% of all Hungarian educated emigrants keep some form of contact with their country. Personal remittances alone account for 3% of Hungary's GDP. In fact, 1 in 5 are still members of professional organisations, institutions, and research centres. What this means is that Hungarians who wish to gain better knowledge and resources abroad can do so with networking and communication from their colleagues while still staying at home.

⁶² Gabor Lados, Zoltan Kovacs, Lajos Boros, Challenges of brain drain and obstacles of return migration in Hungary: An empirical perspective (2013). Available at: https://www.researchgate.net/publication/266784054_Challenges_of_brain_drain_and_obstacles_of_return_migration_in_Hungary_An_empirical_perspective

⁶³ OECD, International Migration Outlook (2021). Available at: <https://www.oecd.org/migration/international-migration-outlook-1999124x.htm>

⁶⁴ Eurofond, Labour mobility within the EU: The impact of return migration (2012). Available at: http://csdle.lex.unict.it/Archive/LW/Data%2oreports%2oand%2ostudies/Reports%2oand%2ostudies%2ofrom%2oEUROFOUND/20120828-043706_EUROFOUND_Labor_mob_Aug_12pdf.pdf

⁶⁵ Alexa Marie Mayo, Does the emigration of skilled labor from Hungary merit being called a brain drain? (2021), Available at: <https://scholars.unh.edu/cgi/viewcontent.cgi?article=1562&context=honors>

LATVIA

1. Country overview

Latvia is located in the Baltic region of Northern Europe with approximately 1,93 million inhabitants. It borders Estonia, Lithuania, Russia and Belarus. The government system is a parliamentary republic, with a president as Head of State and prime minister as Head of Government. Latvia joined the European Union in 2004. It is also a member of NATO.⁶⁶

Latvia's economy has improved massively since its independence, with a strong focus on investments, good fiscal politics and a focus on domestic goods production. Latvia ranks as number 97 in the world in terms of GDP (in US dollars), number 79 in total exports, number 77 in total imports, and its economy is number 50 in terms of GDP per capita. The most important sectors of its economy include wholesale and retail trade, transport, accommodation and food services.⁶⁷

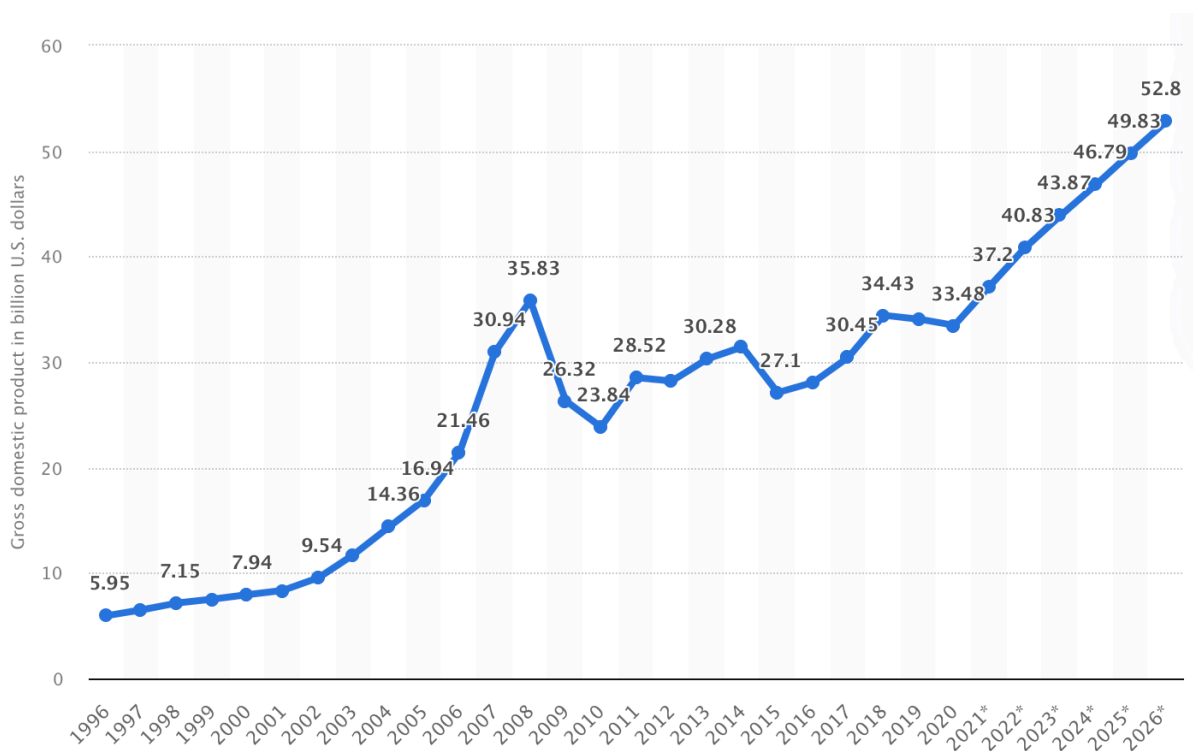


Figure 9. GDP of Latvia (Source: [Statista](#))

⁶⁶ European Union, Country Profile: Latvia. Available at: https://european-union.europa.eu/principles-countries-history/country-profiles/latvia_en

⁶⁷ OECD, OECD Economic Surveys, Country: Latvia (2019). Available at: <https://www.em.gov.lv/sites/em/files/latvia-2019-oecd-economic-survey-overview1.pdf>

Latvia has overhauled its education system so that it becomes more independent and decentralised. The attainment rates and individual performance of most Latvians consistently ranks above average comparatively to others in the region. In that regard, Latvia has been doing consistent changes in its policies to better adapt to the changing education, demographic and political landscape in over 25 universities and higher education institutions among others.

The major research performers in the country are autonomous public research institutions such as state research institutes, universities and research centres. These are mostly focused on academia and do not dive into the realm of innovation, which makes for less incentives and thus, less finances. A number of independent and individual organisations also make up for a large part of the academia and research sector, with major focus on funding, developing and overhauling the science and arts industry as a whole.⁶⁸

2. Brain drain in Latvia

Latvia, together with other Baltic countries, has been heavily hit by waves of emigration due to the natural political change since their independence from the Soviet Union.

This has spurred Latvia to become a country with the largest negative natural population changes and have the largest loss of population share (around 20%) among the European Union in the past 20 years. Numbers wise, the Latvian population has shrunk by 18% due to a combination of emigration and low birth rates. It has led to over 260,000 people that have emigrated between the years 2000-2013 and never returning.⁶⁹

⁶⁸ European Union, Private Sector Interaction in the Decision Making Processes of Public Research Policies Country Profile: Latvia (2013). Available at: https://ec.europa.eu/invest-in-research/pdf/download_en/psi_countryprofile_latvia.pdf

⁶⁹ Baltic International Centre for Economic Policy Studies Report. Available at: <https://www.biceps.org/en/Brain.html>

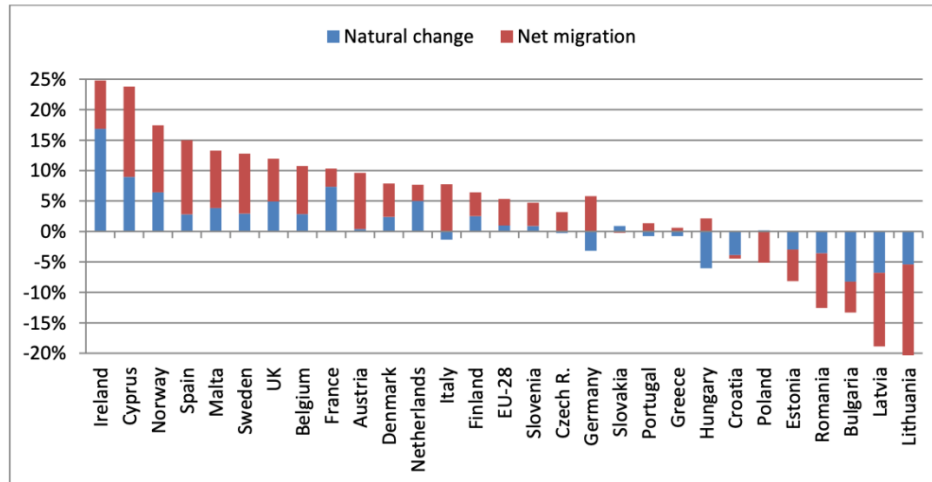


Figure 10. Impact of Brain Drain Scenarios (Source: Eurostat)

While Latvia experienced heavy emigration after its independence, the wave, unlike several other countries, has continued to grow.

Emigrated skilled labour amounted to 120,000 people between 2009-2016 alone equals to 17.4% of its high-educated population. Taking into consideration the previous years of emigration, this amounts to nearly two-thirds of skilled-labour loss in the last two decades for Latvia. In a comprehensive study that analysed the movement of differing occupational workers across the European Union, it was found that nearly 70% of all Latvians who have left even for temporary work, have ended up staying abroad after initially moving.⁷⁰

⁷⁰ Marion del Sol, Marco Rocca, Free movement of workers in the EU and occupational pensions: Conflicting priorities? Between case law and legislative interventions, SAGE Journals (2017). Available at: <https://journals.sagepub.com/doi/full/10.1177/1388262717711776>

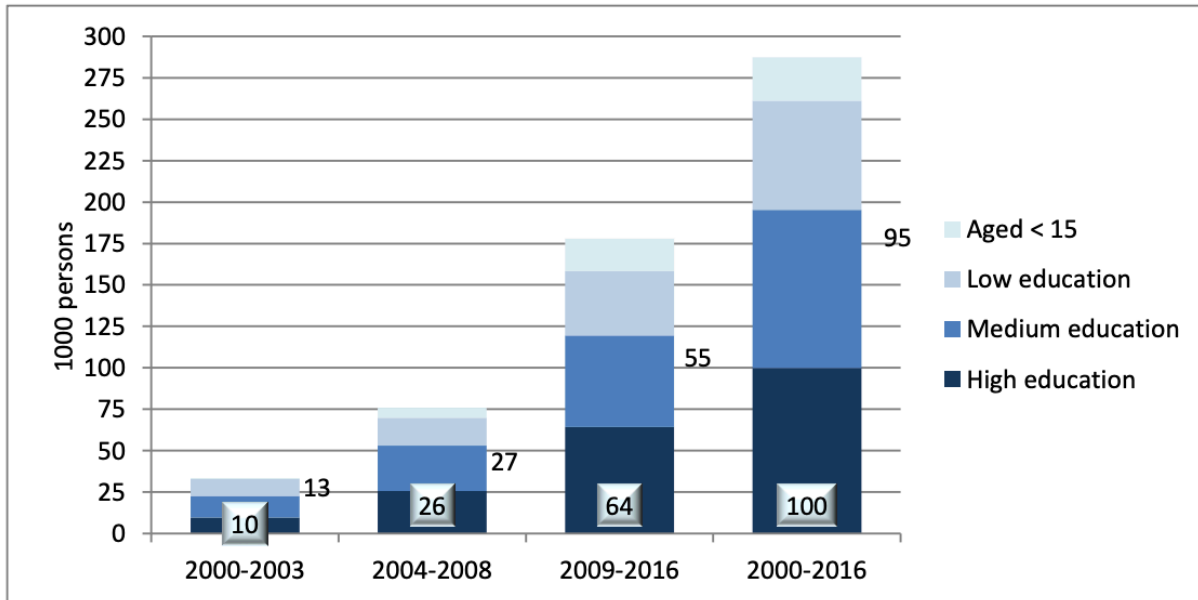


Figure 11. Demographic Scenarios for EU - Latvia (Source: [JRC Publications Repository](#))

When it comes to the reasons as to why Latvians choose to leave the country, the various PUSH and PULL factors point to mainly three things: the economic instability in Latvia on a macro level, individual employment and low wages on a micro level, as well as personal reasons such as not enjoying the political climate or way of living in Latvia.⁷¹

The United Kingdom is the top destination for high-skilled workers and students to move and work in, at two-fifths. Ireland comes at a close second at one-fifth. Germany, Sweden, Finland, and Denmark make up the rest in terms of population. A much smaller number of highly-educated Latvians work and live outside of the European Union.⁷²

LITHUANIA

1. Country overview

Lithuania is located in the Baltic region of Northern Europe with approximately 2,80 million inhabitants. It borders Latvia, Belarus, Poland and Russia. The government system is a parliamentary republic, with a president as Head of State and prime minister as Head of Government. Lithuania has been a member of the European Union since 2004 and it is also a member of NATO.⁷³

⁷¹ Mihails Hazans, European Centre of Expertise in the field of labour law, employment and labour market policy (ECE), Analysis of Latvia (2018). Available at: <https://ec.europa.eu/social/BlobServlet?docId=20089&langId=en>

⁷² The National Archives of the United Kingdom (2011). Available at: <https://webarchive.nationalarchives.gov.uk/ukgwa/20160105160709/http://www.ons.gov.uk/ons/rel/census/2011-census/quick-statistics-for-england-and-wales-on-national-identity--passports-held-and-country-of-birth/rft-qs213ew.xls>

⁷³ European Union, Country Profile: Lithuania. Available at: https://european-union.europa.eu/principles-countries-history/country-profiles/lithuania_en

In terms of the economy, Lithuania has risen to be one of the main investment-friendly countries in the Baltic region. While the majority of the country focuses on wholesale trade, new policies aim at developing homegrown industries. Lithuania ranks as the number 82 economy in the world in terms of GDP (in US dollars), number 64 in total exports, number 66 in total imports, and its economy is ranked at number 46 in terms of GDP per capita. The main industries include wholesale and retail trade, transport, as well as accommodation and food services.⁷⁴

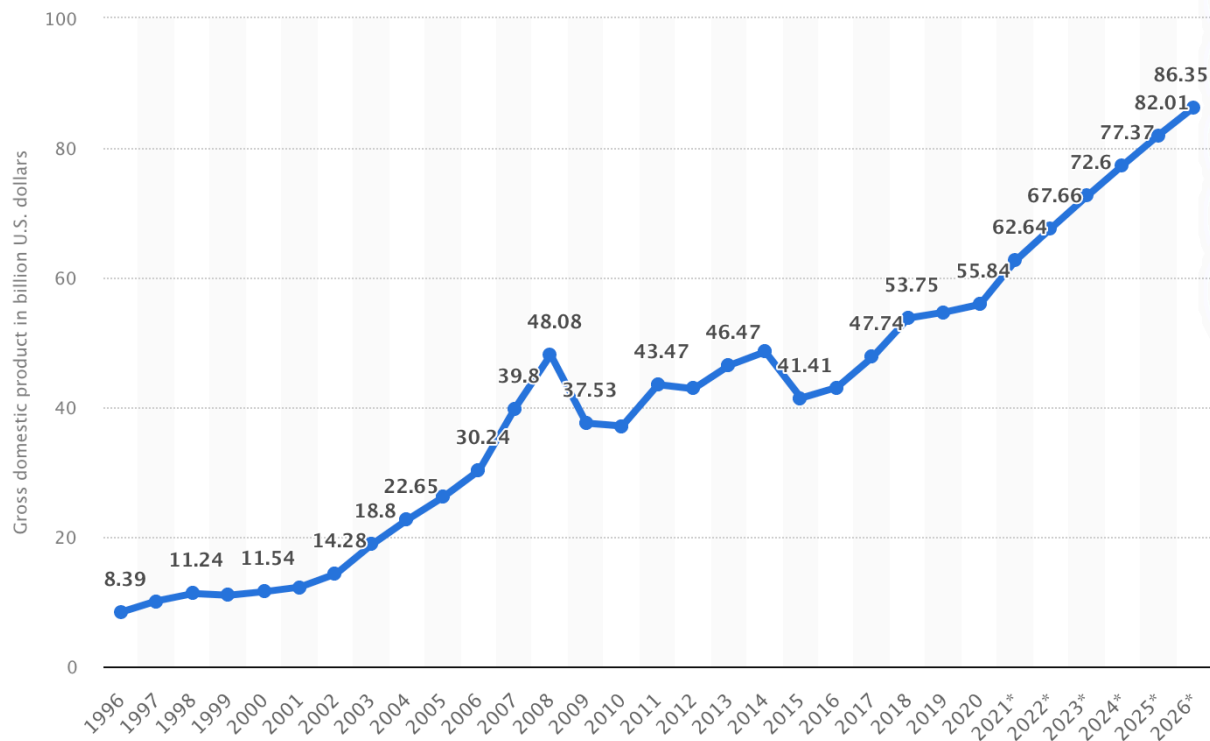


Figure 12. GDP of Lithuania (Source: [Statista](#))

The education system in Lithuania is one not dissimilar from its Baltic counterparts. It offers a relatively high-quality education, with a focus on multiple vocations and career paths. Lithuania is also a country that has a very high tertiary attendance rate, with almost 40% of all students finishing some form of tertiary education. While this number has fallen in recent years, Lithuanian students remain one of the more highly educated in all of Europe.⁷⁵

Lithuania has several groups of public research institutions that drive research and innovation in the country. These include universities, research institutes, autonomous centres for innovation as well as numerous scientific organisations. Most

⁷⁴ OECD, OECD Economic Surveys, Country: Lithuania (2020). Available at: <https://www.oecd.org/economy/surveys/lithuania-2020-OECD-economic-survey-overview.pdf>

⁷⁵ OECD, Reviews of National Policies in Education, Country Overview: Lithuania (2020). Available at: https://read.oecd-ilibrary.org/education/education-in-lithuania_9789264281486-en#page12

long-term research is carried out by state institutes and it is overseen by the Ministry of Higher Education and Science.

Moreover, the Science Council of Lithuania is a major factor for any and all research and innovation policies in the country. It is also the largest scientific community in the country.⁷⁶

2. Brain drain in Lithuania

Lithuania's emigration history can be divided into two main periods.⁷⁷

- ◆ The first follows the restored independence in Lithuania that gave way to massive emigration in the period between 1992-2003. This included mostly Russians, Belarussians and Ukrainians who departed the country to return to their former homelands. Moreover, this was also a time where native Lithuanians sought to live in countries with better economic prospects, albeit it was a much smaller percentage from the overall emigrant population.
- ◆ The second follows Lithuania's accession into the European Union and what is still a major reason for high numbers of emigration today. In fact, for several years after 2004, on average 38% of the country left Lithuania, as low-wage, medium-wage and high-skilled wage workers and students looked for better living conditions.

The greatest illustration of the brain drain in Lithuania is best noted through its residency numbers plummeting. Since 1990, the number of residents living in Lithuania has dropped to nearly 900,000 people. While a large number of these (an estimated 200,000) are due to natural causes, the remaining are due to some form of emigration.

What's more, immigration to Lithuania is minuscule in comparison to the percentage of people leaving, which points to severely negative migration trends that coupled with demographic issues such as declining birth rates and a lack of workforce, point to serious problems for the country. In addition, close to 80% of all emigrants are between the ages of 15-30. This age group also makes up just 35% of the Lithuanian total population.⁷⁸

⁷⁶ European Union, Private Sector Interaction in the Decision Making Processes of Public Research Policies Country Profile: Lithuania (2013). Available at: https://ec.europa.eu/invest-in-research/pdf/download_en/psi_countryprofile_lithuania.pdf

⁷⁷ Migration Patterns, Ministry of Interior of Lithuania. Available at: <https://migracija.lrv.lt/uploads/migracija/documents/files/Migracijos%20metra%C5%A1%C4%8Diai/2010%20m%20metra%C5%A1tis.pdf>

⁷⁸ European Network on Statelessness, Not just a simple twist of fate: statelessness in Lithuania and Latvia (2018). Available at: <https://www.statelessness.eu/updates/blog/not-just-simple-twist-fate-statelessness-lithuania-and-latvia>

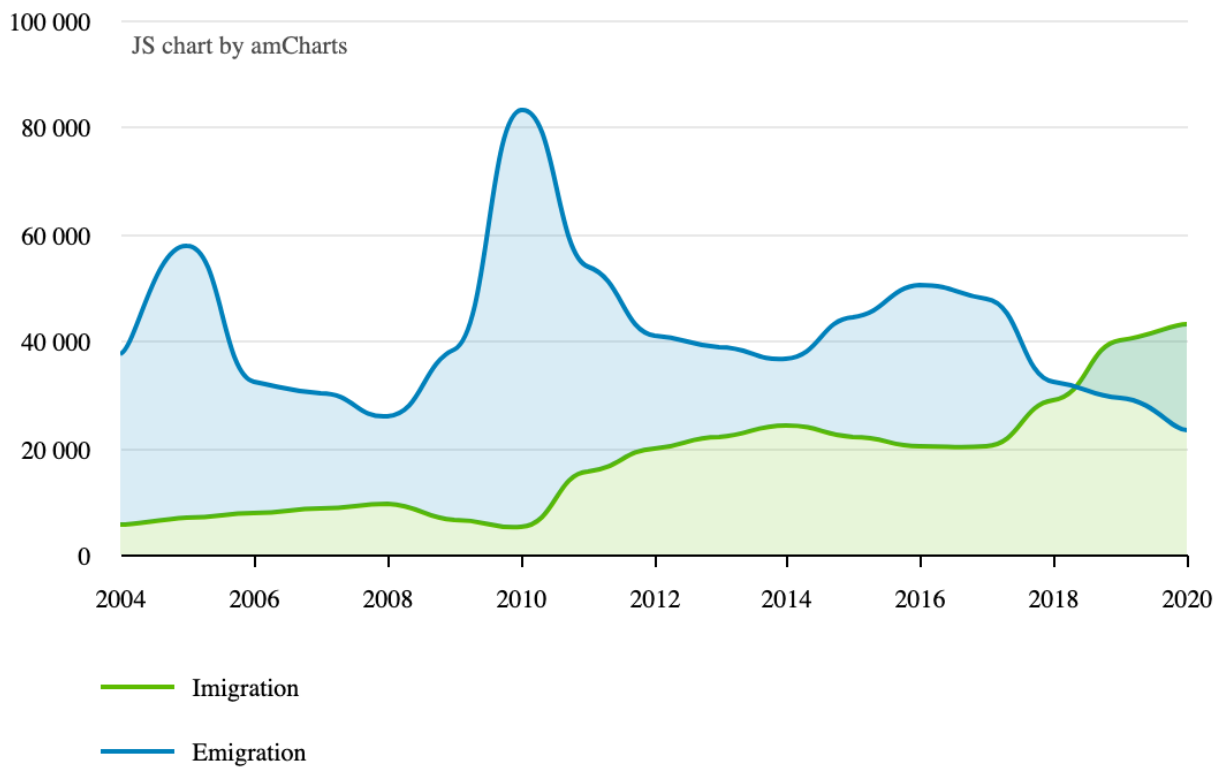


Figure 13. Net Migration in Lithuania (Source: [Europos migracijos tinklas Lietuva](#))

Statistically, the United Kingdom is the number one destination for Lithuanian students to study abroad in. It is equally as popular for highly-skilled workers who are looking for work abroad. In fact, close to 45% of all Lithuanians are currently living in the United Kingdom. Several other destinations for emigration include Norway and Germany, as well as a smaller number who are living and working in Ireland.⁷⁹

⁷⁹ European Migration Network, Migration in numbers (2021). Available at: <https://123.emn.lt/en/#chart-9-desc>

LUXEMBOURG

1. Country profile

The Grand Duchy of Luxembourg is a country located in Western Europe with approximately 632,275 inhabitants. It borders Belgium, Germany and France. The government system is a parliamentary constitutional monarchy, with a Grand Duke as Head of State and prime minister as Head of Government. Luxembourg is one of the six founding members of the European Union, or at the time, the European Coal and Steel Community in 1951. It is also one of the founding members of NATO.⁸⁰

Luxembourg has one of the most advanced economies in the world. With a mixed economy, high levels of openness and entrepreneurship activity, it is one of the most competitive and best-performing countries globally. Luxembourg ranks as the number 71 economy in the world in terms of GDP (in US dollars), number 78 in total exports, number 72 in total imports and its economy is ranked at number 2 in terms of GDP per capita. The main trade in the country are financial services and activities, wholesale and retail trade, as well as transport.⁸¹

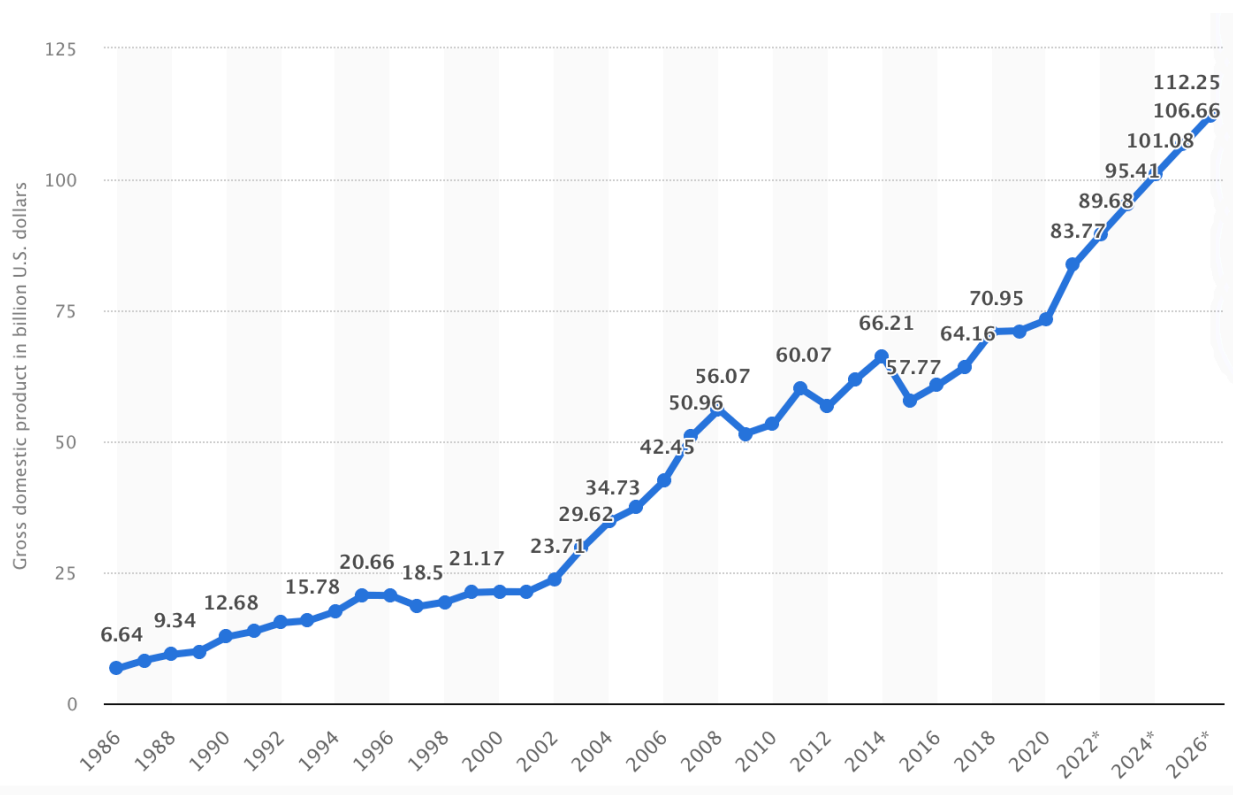


Figure 14. GDP of Luxembourg (Source: [Statista](#))

⁸⁰ European Union, Country Profile: Luxembourg. Available at: https://european-union.europa.eu/principles-countries-history/country-profiles/luxembourg_en

⁸¹ OECD, Economic Forecast Summary, Country: Luxembourg (2021). Available at: <https://www.oecd.org/economy/luxembourg-economic-snapshot/>

Luxembourg ranks as one of the highest-quality education systems in the world. It is the country with the highest investment per student worldwide. Moreover, it has one of the highest tertiary qualifications and interestingly enough, a relatively low secondary education attainment rate. Most of the financial aid in the education system goes toward core education development rather than research and innovation. The majority of universities and higher education organisations are run by the state, with over 10 research institutions and universities across the country.⁸²

The University of Luxembourg drives the majority of research and education in the country. Most of the objectives of higher-education institutes in the country focus on professional training and development rather than research. This includes coordination between economic and academic partners to better facilitate this development. Luxembourg has a low number of independently-focused organisations whose focus is on applied science research, including the Luxembourg International Advanced Studies in Information Technologies. All are overseen by the Ministry of Culture, Higher Education and Research in partnership with public research centres.⁸³

2. Brain drain in Luxembourg

Luxembourg's largest recorded instance of emigration was in the 19th and early 20th century, where approximately one third of the Luxembourgish population emigrated to neighbouring countries due to a less-developed economy than its neighbours at the time. Since then, Luxembourg has developed everything from its infrastructure, economy and trade, making it into a highly-advanced country. For the most part, Luxembourg is a country of brain gain rather than a country of brain drain.⁸⁴

In recent years, Luxembourg has employed a strategy for attracting immigration and promoting integration. This is because Luxembourg, similar to other countries in the world, is experiencing a rapid population decline. In order to combat this and guarantee foreign workers and students, in a program titled "The Integration Contract"⁸⁵, it aims to not only attract foreign talent, but make sure that a high-level of integration is achieved by committing to integration in Luxembourgish society. Currently, close to 40% of the population is non-Luxembourgish citizens, with an additional 9% being third-country (non-European Union) nationals. In fact, immigrants have made up 80% of the population growth in Luxembourg in recent years.⁸⁶

⁸² OECD, Education at a Glance 2021: OECD Indicators, Country Profile: Luxembourg (2021). Available at:

<https://www.oecd-ilibrary.org/sites/80c98885-en/index.html?itemId=/content/component/80c98885-en>

⁸³ European Union, Private Sector Interaction in the Decision Making Processes of Public Research Policies Country Profile: Luxembourg (2013). Available at: https://ec.europa.eu/invest-in-research/pdf/download_en/psi_countryprofile_luxembourg.pdf

⁸⁴ La progression de la population du Grand-Duché continue: 537 039 résidents au 1er janvier 2013 [The population growth of the Grand Duchy continues: 537,039 residents as of 1 January 2013] (2013). Available at:

<https://statistiques.public.lu/fr/actualites/population/population/2013/04/20130418/20130418.pdf>

⁸⁵ For more information, see: <http://www.olai.public.lu/fr/accueil-integration/mesures/contrat-accueil/index.html>

⁸⁶ National Statistical Office in Luxembourg (2011). Available at: https://statistiques.public.lu/stat/TableViewer/tableView.aspx?ReportId=12853&IF_Language=eng&MainTheme=2&FldrName=1

MALTA

1. Country overview

Malta is an island country located in Southern Europe with approximately 525,285 inhabitants. It borders Italy, Tunisia and Libya. The government system is a single-chamber parliamentary republic, with a President as Head of State and prime minister as Head of Government. Malta has been a European Union Member State since 2004. It is also a member of NATO.⁸⁷

Malta is recognised as an advanced economy whose main focus is highly-industrialised trade and service. Malta ranks as number 123 in the world in terms of GDP (in US dollars), number 117 in total exports, number 85 in total imports and its economy is ranked at number 35 in terms of GDP per capita. The vital Maltese economic sectors include wholesale and retail trade, transport and accommodation and food services.⁸⁸

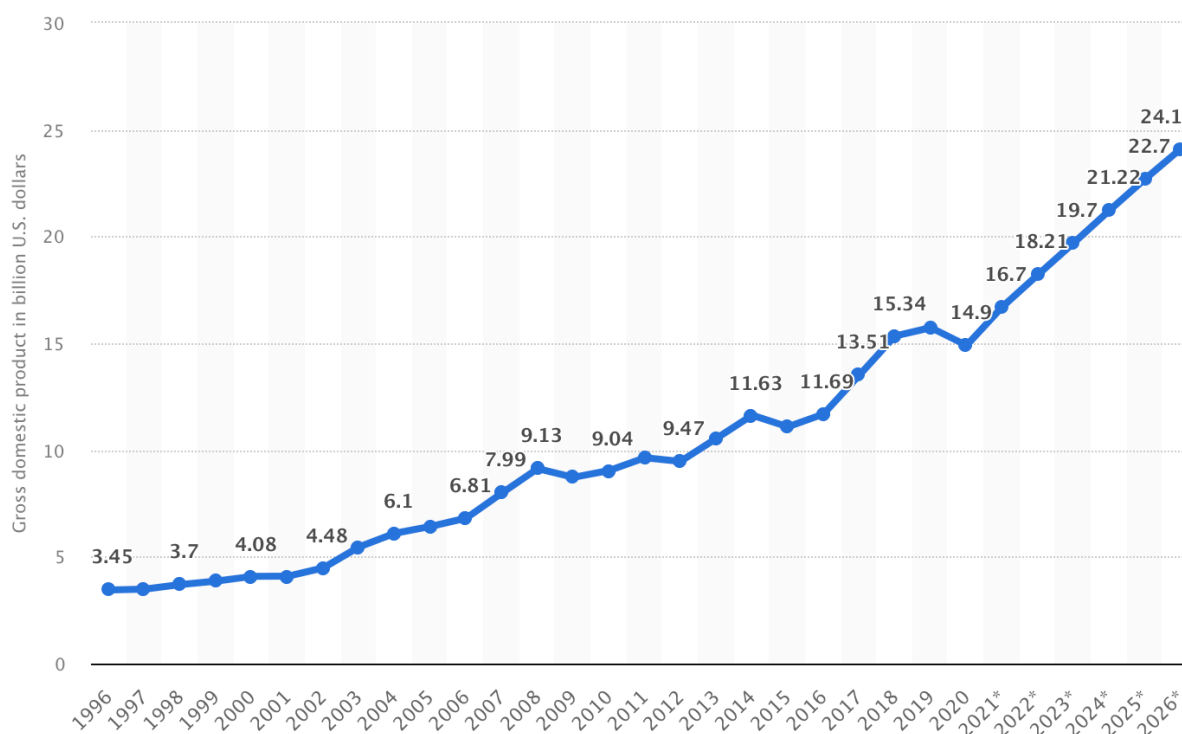


Figure 15. GDP of Malta (Source: [Statista](#))

⁸⁷ European Union, Country Profile: Malta. Available at: https://european-union.europa.eu/principles-countries-history/country-profiles/malta_en

⁸⁸ OECD, Key Policies to Promoting Longer Lives, Malta (2017). Available at: https://www.oecd.org/countries/malta/Malta_Key%20policies_Final.pdf

The education system in Malta is rated relatively high in comparison to other countries in the region. Aside from universities and higher education institutions, Malta also has several independent organisations and business enterprises that are heavily involved in the research and innovation department in the country. On an individual level, Maltese students rank average on most global education indicators, while the education system is ranked as high-quality by most indicators.

The University of Malta remains a pillar of research, innovation and education in the country. The university research is complemented by other research organisations that are funded by the state, private sectors as well as international research centres. These include the Institute of Agriculture, the Institute of Energy Technology, the Cleaner Technology Centre, the Centre for Communication Technology, the International Ocean Institute, the Institute of Water Technology and The Ministry of Food and Agriculture Research Centre.⁸⁹

2. Brain drain in Malta

Malta's brain drain problem and lack of resources to combat it is mostly down to statistical anomalies and a lack of extensive research about the topic of overall emigration in Malta. While there is no real 'brain drain' in the country because it receives high numbers of immigrants (both low-wage and highly-educated) on an annual basis, Malta faces several issues that have begun being addressed on a national level as of late.

The biggest emigration wave that Malta experienced was back in the 20th century, with as many as 150,000-200,000 people leaving the country at the time in search for a better life. Since then, while Malta has made massive improvements in terms of its industries, economy as well as infrastructure, there is still a steady percentage of emigration. Since the 1990s, an estimated 100,000 people have left the country.⁹⁰

However, when it comes to the global human flight index scale, which measures the overall net migration in a country, Malta ranks as relatively low in comparison to other countries worldwide.

⁸⁹ European Union, Private Sector Interaction in the Decision Making Processes of Public Research Policies Country Profile: Malta (2013). Available at: https://ec.europa.eu/invest-in-research/pdf/download_en/psi_countryprofile_malta.pdf

⁹⁰ Malta Migration, Emigration Statistics in Malta (2017). Available at: <https://maltamigration.com/statistics/?s=4A624EE1-7D7101215028-ACE>

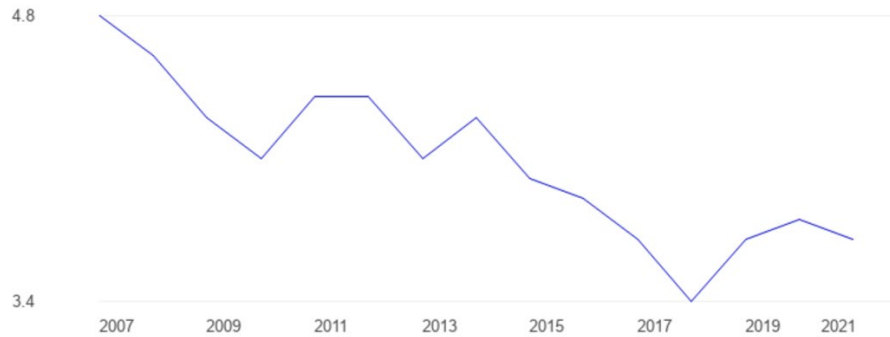


Figure 16. Malta's human flight index (Source: [The Global Economy](#))

What this points to is that immigration policies and the immigrant population in Malta, particularly highly-educated workers and students make the other end of the “brain” coin and introduce brain gain into the country. As of 2019, an estimated 20% of the total population is non-Maltese citizens, which coincides with the percentage of people that have left the country in the past 20-30 years.⁹¹

In a comprehensive study done by EY⁹² that surveyed a number of Maltese young people about the state of the country, some staggering revelations were made.⁹³

Firstly, it concluded that close to 70% of all Maltese Millennials and Gen-Z⁹⁴ want to leave the country permanently. This is on the basis of current wishes rather than comprehensive plans, meaning that number may be obsolete based on any future non-actions by the surveyed respondents, but it is an indicator of the opinions of young people in the country.

Secondly, the various PUSH and PULL reasons for why young people in particular want to move abroad are distinctly different than other countries facing the issue of emigration. The top three reasons cited were overdevelopment of the country at 68%, the environmental situation at 55%, as well as bad traffic at 26% which are unique reasons in comparison to the whole region of Europe. Other reasons included Malta's international image, climate change, education, immigration, inequality and COVID-19.

⁹¹ Migrants and Refugees, Country Profile: Malta. Available at: <https://migrants-refugees.va/country-profile/malta/>

⁹² Ernst & Young Global Limited, doing business as EY, is a multinational professional services network and one of the largest professional services networks in the world. It is considered one of the Big Four accounting firms worldwide.

⁹³ EY Generate Youth Survey: The Pulse of Malta's Future Generations (2021). Available at: https://www.ey.com/en_mt/articles/generate-survey-2021

⁹⁴ There are multiple definitions of the words Millennial and Gen-Z, however Millennial can be defined as a person born between the years 1981-1996, while a Gen-Z is a person born after the year 1997. For more information, visit: <https://www.pewresearch.org/fact-tank/2019/01/17/where-millennials-end-and-generation-z-begins/>

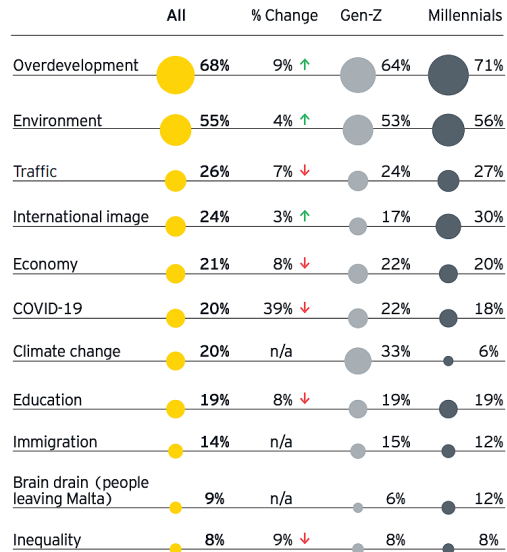


Figure 17. Reasons for Emigrating (Source: [EY](#))

POLAND

1. Country overview

Poland is a country in Central Europe with approximately 38 million inhabitants. It borders Belarus, Czechia, Germany, Lithuania, Russia, Slovakia and Ukraine. The government system is a parliamentary republic, with a President as Head of State and prime minister as Head of Government. Poland first joined the European Union in 2004 and it is also a member of NATO.⁹⁵

Poland has managed to increase its GDP seven-fold since 1990. Since then, its imports and exports (both in resources and labour) have helped it become a competitive and high-performing economy. Poland ranks as the number 21 economy in the world in terms of GDP (in US dollars), number 22 in total exports, number 18 in total imports and its economy is ranked at number 57 in terms of GDP per capita. The most important sectors of Poland's economy include wholesale and retail trade, transport, industry, as well as accommodation and food services.⁹⁶

⁹⁵ European Union, Country Profile: Poland. Available at: https://european-union.europa.eu/principles-countries-history/country-profiles/poland_en

⁹⁶ OECD, Economic Forecast Summary, Country Profile Poland (2021). Available at: <https://www.oecd.org/economy/poland-economic-snapshot/>

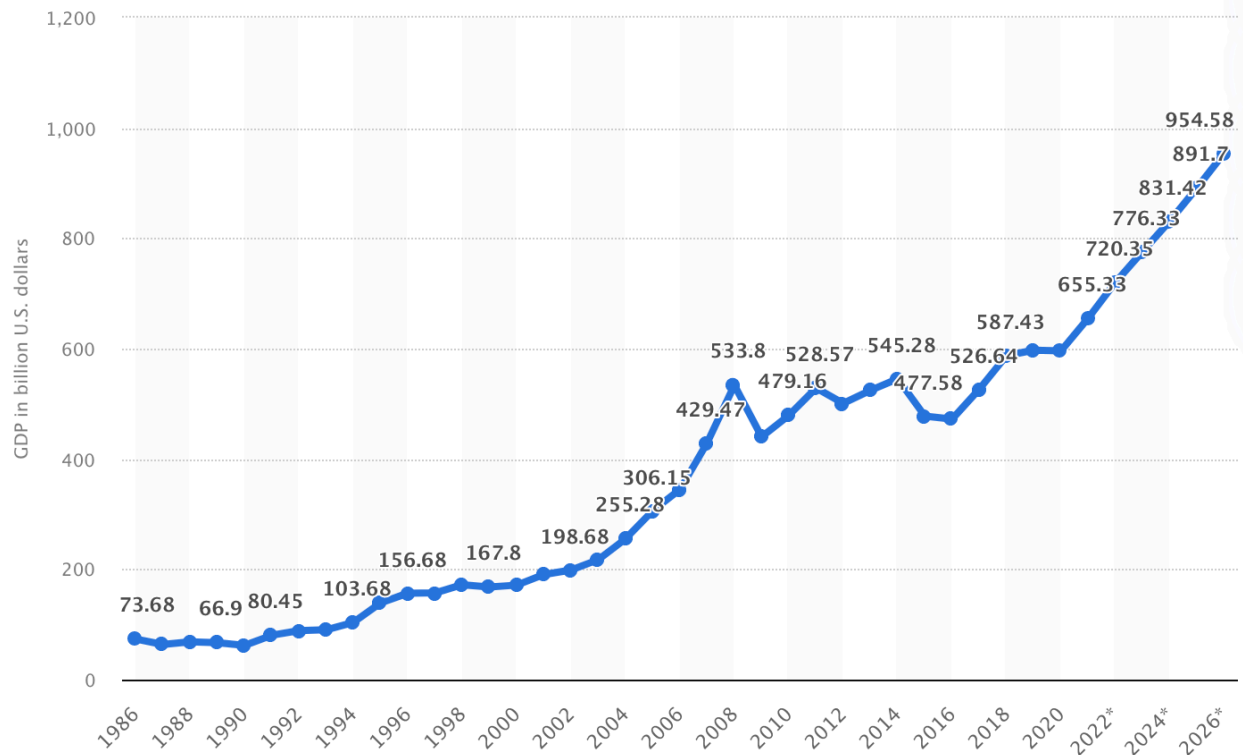


Figure 18. GDP of Poland (Source: [Statista](#))

Poland has done great strides in improving its education system, both on a micro and macro level. While performing relatively average to below average in the early 2000s in terms of facilities, institutions, policies and individual performances, it has recently begun to compete with high-performing countries in every education score even if its education spending is relatively low to its GDP. What’s more, the overall performance of individual students has increased globally.⁹⁷

Poland has over 800 institutions that are tasked with research and development, making it one of the better government-funded countries when it comes to facilitating funds in the realm of development. The operation of all research systems in the country are facilitated by what’s known as the “Constitution for Science” or the Higher Education and Science Act. There are over 128 universities, higher education institutions, departments and research organisations across the country, including over 80 research units of the Polish Academy of Sciences.⁹⁸

2. Brain drain in Poland

⁹⁷ OECD, Education at a Glance: OECD Indicators, Country: Poland (2021). Available at: <https://www.oecd-ilibrary.org/sites/g399a67a-en/index.html?itemId=/content/component/g399a67a-en>

⁹⁸ European Union, Private Sector Interaction in the Decision Making Processes of Public Research Policies Country Profile: Poland (2013). Available at: https://ec.europa.eu/invest-in-research/pdf/download_en/psi_countryprofile_poland.pdf

The fall of the former-communist Eastern Bloc in which Poland was also included made for the first wave of emigration from the country. Since 1989 and going well into Poland's accession into the European Union, an estimated two million people have left the country. The majority of these emigrants were low-wage and low-skilled labour in search for better employment, which is why they emigrated to countries like the United Kingdom, Germany, France and Ireland. According to the Central Statistical Office in Poland, this was in search of better working opportunities abroad.⁹⁹

Today, nearly 600,000 educated Poles live in another European Union country. That is the highest total among all 27 Member States. What's worth noting is that Poland has some of the highest share of tertiary educated emigrants in the world and the most in Europe, estimated at around 576,000 individuals. Still, the top destination countries include neighbouring Germany, the United Kingdom, France and Ireland from the European Union, with a smaller percentage preferring the United States, Canada and Australia.¹⁰⁰

As with most other countries, the PUSH and PULL reasons vary, with the majority stemming down to economic reasons such as low wages, inadequate employment and poor working environments, as well as personal reasons like familial considerations, disliking the general lifestyle and mentality in the country.¹⁰¹

One comprehensive study that targeted the issue of brain drain in Poland was thanks to the Polish Innovation Diaspora.¹⁰² Among other things, it targeted issues like gaining information about Polish people who are disconnected with their homeland, promoting Polish lifestyles, and understanding the reasons why the Polish diaspora is large but often disinterested in returning home.

The study was conducted with highly-educated Poles, scientists, professors and researchers in mind, surveying their thoughts and opinions about a potential return to Poland in the near or far future.¹⁰³

- ◆ Interestingly, the question of a potential return to Poland was evenly split between respondents at 48% and 51% respectively. Those who answered in the affirmative would only do so if the individual economic conditions improved in the country i.e., higher paying jobs and more comprehensive working environments. What's more, 60% of respondents that answered positively in this

⁹⁹ Informacje statystyczne Polska (Central Statistical Office of Poland). Available at: <https://www.gov.pl/web/rodzina/667informacje-statystyczne>

¹⁰⁰ European Committee of the Regions, Addressing Brain Drain (2018). Available at: <https://cor.europa.eu/en/engage/studies/Documents/addressing-brain-drain/addressing-brain-drain.pdf>

¹⁰¹ Brosz Maciej, Raport z badań socjologiczny [Sociological Research Report] (2019). Available at: http://e-migracja.eu/wp-content/uploads/2019/01/E-migracja_raport_GOTOWY.pdf

¹⁰² The Polish Innovation Diaspora is a non-governmental organisation that works to connect Polish tech innovators and Polish diaspora worldwide. For more information, visit: <https://weareplug.in/>

¹⁰³ E-Emigration: Polish Technological Diaspora, 2020-2021 Report. Available at: <https://polska1.pl/wp-content/uploads/2021/04/Raport-E-migracja.-Polska-diaspora-technologiczna.pdf>

survey, did so by only having plans in mind rather than comprehensively preparing for the return trip.

- ◆ One of the main questions posed was the hypothetical situation that specific mechanisms and solutions would be brought into Poland that would increase the economic and social standing in the country. With this in mind, 36% of respondents answered that they would not return regardless, with 37% being unsure and 26% answering yes. This means that introducing specific measures that would improve Poland as a whole would have a limited impact on return migration.
- ◆ The primary reason why the respondents in this particular survey (bearing in mind their status as high-skilled workers) chose to leave Poland was the political and economic future in the country. This bears witness to a very pessimistic perception of the country even by those who have been educated to the highest degree.

PORTUGAL

1. Country overview

Portugal is a country located in southwestern Europe on the Iberian Peninsula with approximately 10,30 million inhabitants. It only borders Spain. The government system is a semi-presidential republic, with a president as Head of State and prime minister as Head of Government. Portugal joined the European Union (then European Community) in 1986. It is also a founding member of NATO.¹⁰⁴

Portugal's economy has been in a state of constant relapse and upkeep since it first joined the European Community. While it remains a relatively wealthy country, it's also a country with one of the biggest wealth inequalities in the whole of the European Union. Portugal ranks as the number 47 economy in the world in terms of GDP (in US dollars), number 45 in total exports, number 37 in total imports, and its economy is ranked at number 42 in terms of GDP per capita. The most important sectors in the Portuguese economy are wholesale and retail trade, transport, accommodation and food services.¹⁰⁵

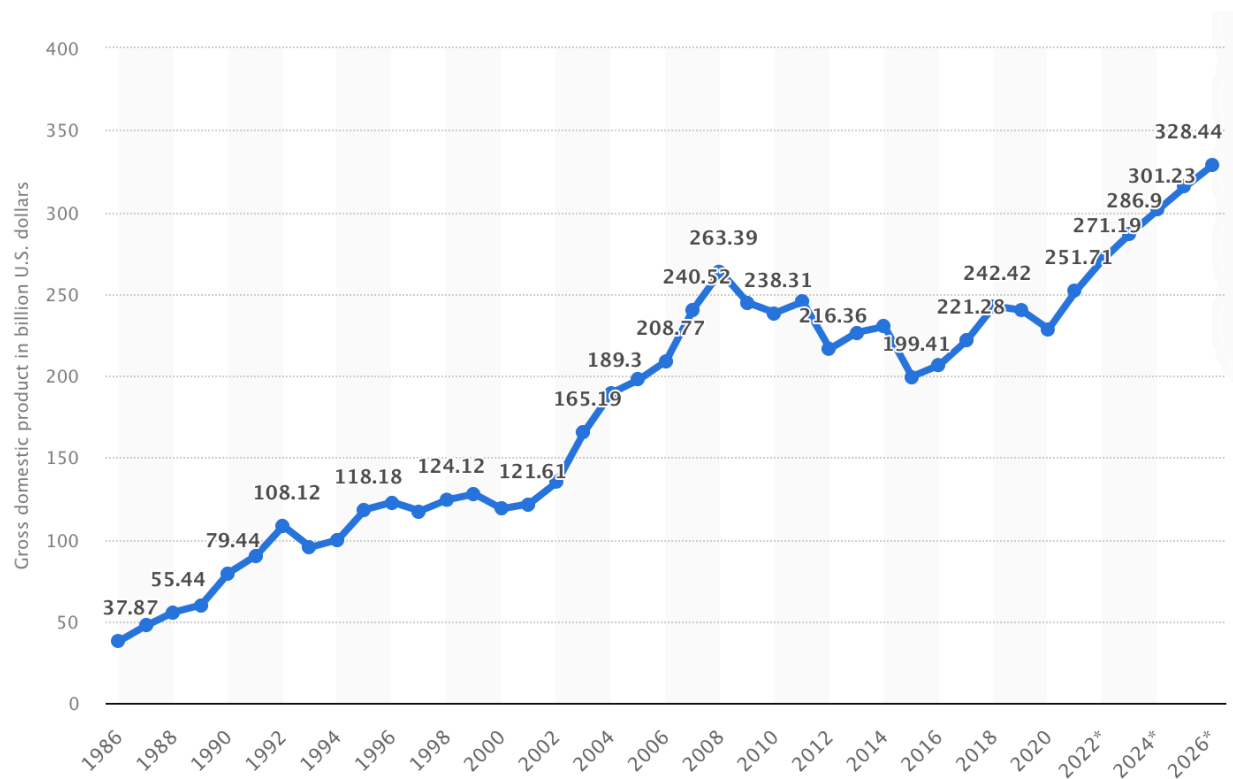


Figure 19. GDP of Portugal (Source: [Statista](#))

¹⁰⁴ European Union, Country Profile: Portugal. Available at: https://european-union.europa.eu/principles-countries-history/country-profiles/portugal_en

¹⁰⁵ OECD, Economic Forecast Summary, Country Profile: Portugal (2021). Available at: <https://www.oecd.org/economy/portugal-economic-snapshot/>

The education system in Portugal is ranked as one of the highest in the world. While it provides for high-quality comprehensive core education, Portugal also lacks in the department of research and innovation comparatively to most other European Union countries. Moreover, an individual's socio-economic status severely determines how successful their education outcome will be in the future, which is why individual student performances differ significantly depending on the region.¹⁰⁶

Portugal has over 40 different universities, higher education facilities, research institutions and open research institutes that primarily drive the research, development and innovation sector in the country. Most of the research is facilitated, developed and based in universities, with a newer addition of businesses and other private institutions also partaking in the development of the scientific research sphere in Portugal.¹⁰⁷

2. Brain drain in Portugal

Portugal is known as the world's oldest nation-state, and it's that title that made Portugal a favoured country to immigrate to for many centuries.

However, with the fall of the Kingdom and subsequent financial crises that followed, what was once a very prominent migration recipient country turned into a mainly sending one. While emigration was a fairly stable in Portugal, it's not until the economic recession in 2008 that spurred on a large wave of emigration in the country. Currently, Portugal has the 12th highest emigration rate in the world despite only having 10 million people living there.¹⁰⁸

Most Portuguese emigration occurred between the 1960-1980s, when rampant austerity measured coupled with financial insecurity and extremely low employment rates caused a large-scale emigration wave to other European countries such as Spain, the United Kingdom, Luxembourg and Germany, but also the United States, Canada and Australia. The emigrants were mostly young people in seek of better opportunities.¹⁰⁹

Since 2008 however, Portugal has reached its lowest net migration rate. The majority of emigrants leaving the country are between the ages of 15-50. Coupled with

¹⁰⁶ OECD, Education at a Glance 2021, OECD Indicators, Country: Portugal (2021). Available at: <https://www.oecd-ilibrary.org/sites/db0e552c-en/index.html?itemId=/content/component/db0e552c-en>

¹⁰⁷ European Union, Private Sector Interaction in the Decision Making Processes of Public Research Policies Country Profile: Portugal (2013). Available at: https://ec.europa.eu/invest-in-research/pdf/download_en/psi_countryprofile_portugal.pdf

¹⁰⁸ OECD, Organisation for Economic Co-operation and Development, International Migration Outlook (2016). Available at: https://www.oecd-ilibrary.org/social-issues-migration-health/international-migration-outlook-2016_migr_outlook-2016-en

¹⁰⁹ Observatório da Emigração, Emigração Portuguesa Relatório Estatístico [Emigration Observatory, Portuguese Emigration Statistical Report] (2015). Available at: http://observatorioemigracao.pt/np4/?newsId=4447&fileName=OEm_EmigracaoPortuguesa_RelatorioEstatistic.pdf

the fact that Portugal is registering less immigrants coming into the country, Portugal has now lost a fifth of the country's skilled workforce.¹¹⁰

The reason why so many highly-educated and high-skilled young people in particular are choosing to leave the country are “standard” in the realm of PUSH and PULL factors worldwide for countries with declining populations and low immigration rates. These include¹¹¹:

- ◆ Economic reasons (both personal finances and current economic policies in the country), professional reasons (looking for a better job, working conditions or living conditions),
- ◆ Family reasons (such as having a family member who lives in another country),
- ◆ Further studies (spurred on by dissatisfaction of the higher education system in Portugal),
- ◆ Personal fulfilment (not being connected with Portuguese culture or not wanting to spend life in Portugal in the future),
- ◆ Other reasons such as wanting to meet other cultures and experiencing different ways of living.

This has made Portuguese people one of the highest immigrant populations across Europe. In 2014, they constituted the majority of new immigrants in France. They were the second-largest immigration nationality in Luxembourg in 2016 as well as the fourth-largest in Switzerland. Outside of Europe, they are currently the seventh-largest nationality immigrant group in the United States and the ninth-largest in Brazil.¹¹²

¹¹⁰ Frederic Docquier, Oliver Lohest, Abdeslam Marfouk, Brain Drain in Developing Countries (2007), pp. 193-218. Available at: <https://openknowledge.worldbank.org/handle/10986/4454>

¹¹¹ Rui Machado Gomes, João Teixeira Lopes, Henrique Malheiro Vaz, Luisa Carneira, Brain Drain and Academic Mobility from Portugal to Europe (2015). Available at: https://www.researchgate.net/publication/313844624_Brain_drain_and_academic_mobility_from_Portugal_to_Europe

¹¹² CIES-IUL, Observatório da Emigração [Portuguese Emigration Observatory] (2015). Available at: <https://repositorio.iscte-iul.pt/handle/10071/11041>

ROMANIA

1. Country overview

Romania is a country located in Central and South-eastern Europe with approximately 19.02 million inhabitants. It borders Bulgaria, Hungary, Moldova, Serbia and Ukraine. The government system is a semi-presidential republic, with a president as Head of State and prime minister as Head of Government. In 2007, Romania became a member of the European Union. It is also a member of NATO.¹¹³

While still in the process of reform and economic rebuild, Romania remains a relatively stable country economically-wise. In that regard, it has flourished massively since its independence. Romania ranks as the number 46 economy in the world in terms of GDP (in US dollars), number 41 in total exports, number 36 in total imports, and its economy is ranked at number 62 in terms of GDP per capita. Romania's most important sectors include industry, wholesale retail and trade and accommodation and food services.¹¹⁴

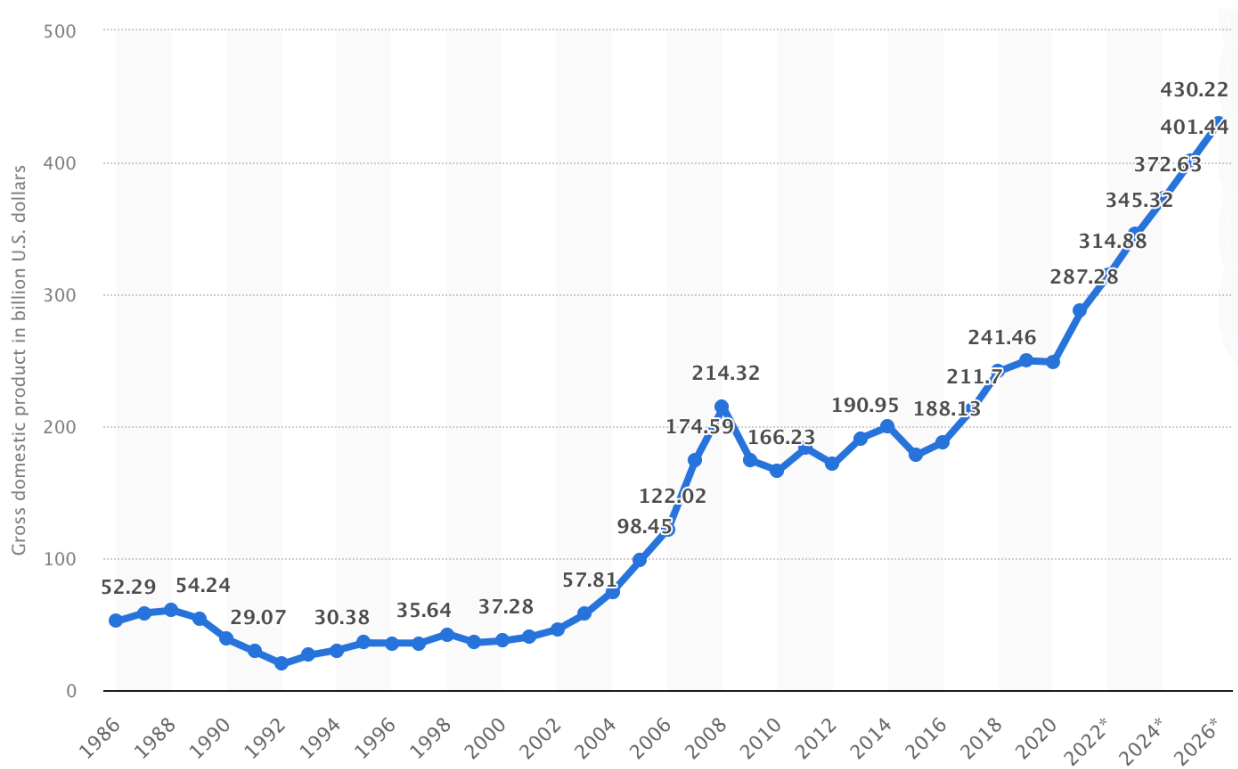


Figure 20. GDP of Romania (Source: [Statista](#))

¹¹³ European Union, Country Profile: Romania. Available at: https://european-union.europa.eu/principles-countries-history/country-profiles/romania_en

¹¹⁴ OECD, Economic Forecast Summary, Country: Romania (2019). Available at: <https://www.oecd.org/economy/romania-economic-snapshot/>

Romania has the cheapest education and living costs in all 27 Member States. While the education system is ranked relatively high comparatively to other nations that are non-European Union states, the system suffers from inadequate funding which leads to less resources on a micro and macro level. On an individual level, students perform average to below average comparatively. Romania also has one of the biggest and most diverse universities and higher education institutions, with over 500 across the country.

There are several types of research performing institutions in Romania, including over 300 individual institutes, research centres and over 41 state facilities that are directly administered and overseen by the Ministry of Education and Research. The Romanian Academy of Sciences and Arts has a specialised research program with a large network of scientific divisions that are active in all scientific spheres. Despite this, the GDP allocated for any academic or research activities is lower than the average European Union threshold.¹¹⁵

2. Brain drain in Romania

By 1992, Romania's population had reached one of the highest levels in its history, approximating 23 million inhabitants in total. Since then, that number has been steadily falling with a decreased peak of 18% at 19 million residents in 2016.

This is a reflection of decreased birth rates (from 13.6 newborns per one thousand inhabitants in 1990 to 9.1 newborns per one thousand inhabitants in 2016) as well as a negative net population migration. While no official statistics exist, it's estimated that 3.4 million Romanians have left the country. This was partly confirmed by the National Office for Statistics in Romania, which put Romania in the group of top 20 countries that produce labour migration.¹¹⁶

There are four distinct periods of emigration that are significant in Romania. These are¹¹⁷:

- ◆ Between 1990-1993, which can mostly be described as refugee migration in Romania after its independence. The main destinations at the time were mainly Germany (three-quarters of Germany's 350,000 asylum applicants were Romanians), as well as Hungary, France and Belgium. Because of this, a number

¹¹⁵ European Union, Private Sector Interaction in the Decision Making Processes of Public Research Policies Country Profile: Romania (2013). Available at: https://ec.europa.eu/invest-in-research/pdf/download_en/psi_countryprofile_romania.pdf

¹¹⁶ Institutul Național de Statistică, Populația rezidentă la 1 ianuarie 2017 – în scădere cu 122,0 mii persoane [National Institute of Statistics, Resident population on January 1, 2017 - decreasing by 122.0 thousand people], (2017). Available at: <https://insse.ro/cms/ro/tags/comunicat-populatia-rezidenta-si-migratia-internationala>

¹¹⁷ Istvan Horvath, Remus Gabriel Anghel, Migration and Its Consequences for Romania (2009). Available at: https://www.researchgate.net/profile/Istvan-Horvath/publication/325397626_Migration_and_Its_Consequences_for_Romania/links/5b326a834585150d23d579e3/Migration-and-Its-Consequences-for-Romania.pdf

of European countries imposed restrictions on immigration, which led many Romanians to seek refuge in countries like Turkey and Israel.

- ◆ After 1997, which was spurred on by a massive political overhaul which led the country into a deep recession and political instability. Interestingly enough, this was a period where the majority of emigrants who left, did so only temporarily to seek out high-paying jobs in other countries. The main destination countries at this time were Romance language-speaking countries like Spain and Italy, but also the United States.
- ◆ After 2002, which marked a period where the European Union lifted some of its restrictions towards Romanian citizens. At this time however, most high-educated Romanians (those who had obtained a post-secondary level education or tertiary education) chose to move outside of the European Union in countries like the United States and Canada during this period.
- ◆ After 2007, which marked Romania's accession into the European Union. This began a mass wave of emigration from Romania. However, the difference was that while in the past, most Romanians moved abroad to obtain low-paying and low-skilled jobs, this was a period where high-educated and high-skilled Romanians moved to various European Union countries.

A new emigration trend occurred after 2015. This marks the biggest emigration wave from Romania to date, with only a minor discrepancy in 2020 due to the COVID-19 pandemic. While figures are not certain and no numbers exist, data shows that this wave has reached equal levels of people leaving the country as in the 1990s. Romania now has the lowest percentage of high education graduates in the European Union.¹¹⁸

¹¹⁸ Eurostat, Europe 2020 education indicators (2018). Available at: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Archive:Europe_2020_indicators_-_education&oldid=344842

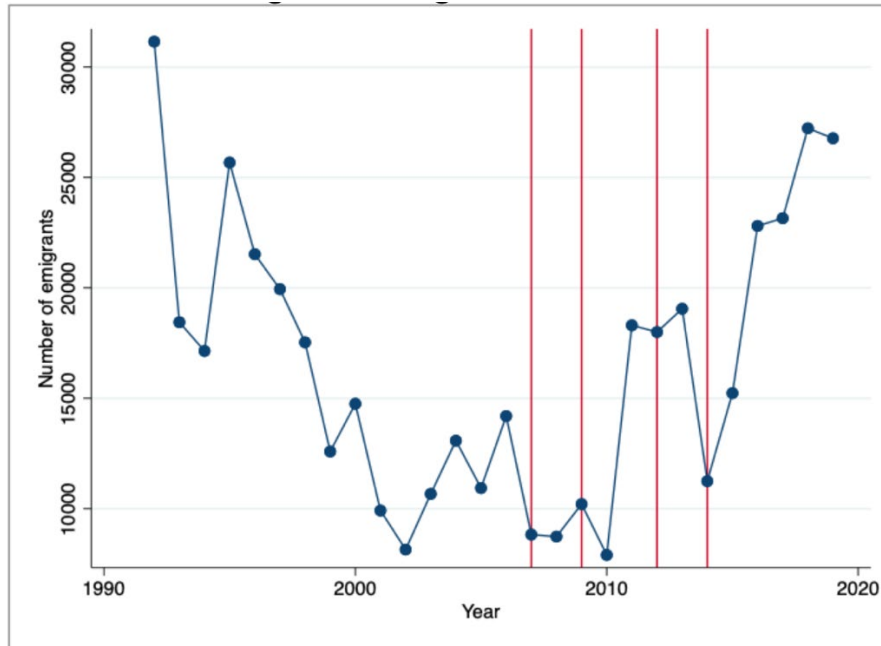


Figure 21. Share of Emigrants leaving Romania (Source: [National Office for Statistics](#))

SLOVAKIA

1. Country overview

Slovakia is a country located in Central Europe with approximately 5,49 million inhabitants. It borders Austria, Czech Republic, Hungary, Poland and Ukraine. The government system is a parliamentary republic, with a president as Head of State and prime minister as Head of Government. Slovakia joined the European Union in 2004. It is also a member of NATO.¹¹⁹

While regional differences exist within the country, Slovakia remains a strong competitor and economy. Slovakia ranks as the number 60 economy in the world in terms of GDP (in US dollars), number 38 in total exports, number 41 in total imports, and its economy is ranked at number 48 in terms of GDP per capita. The most important sectors of the economy include industry, wholesale retail and trade, transport and accommodation and food services.¹²⁰

¹¹⁹ European Union, Country Profile: Slovakia. Available at: https://european-union.europa.eu/principles-countries-history/country-profiles/slovakia_en

¹²⁰ OECD, OECD Economic Snapshot, Country: Slovakia (2021). Available at: <https://www.oecd.org/economy/slovak-republic-economic-snapshot/>

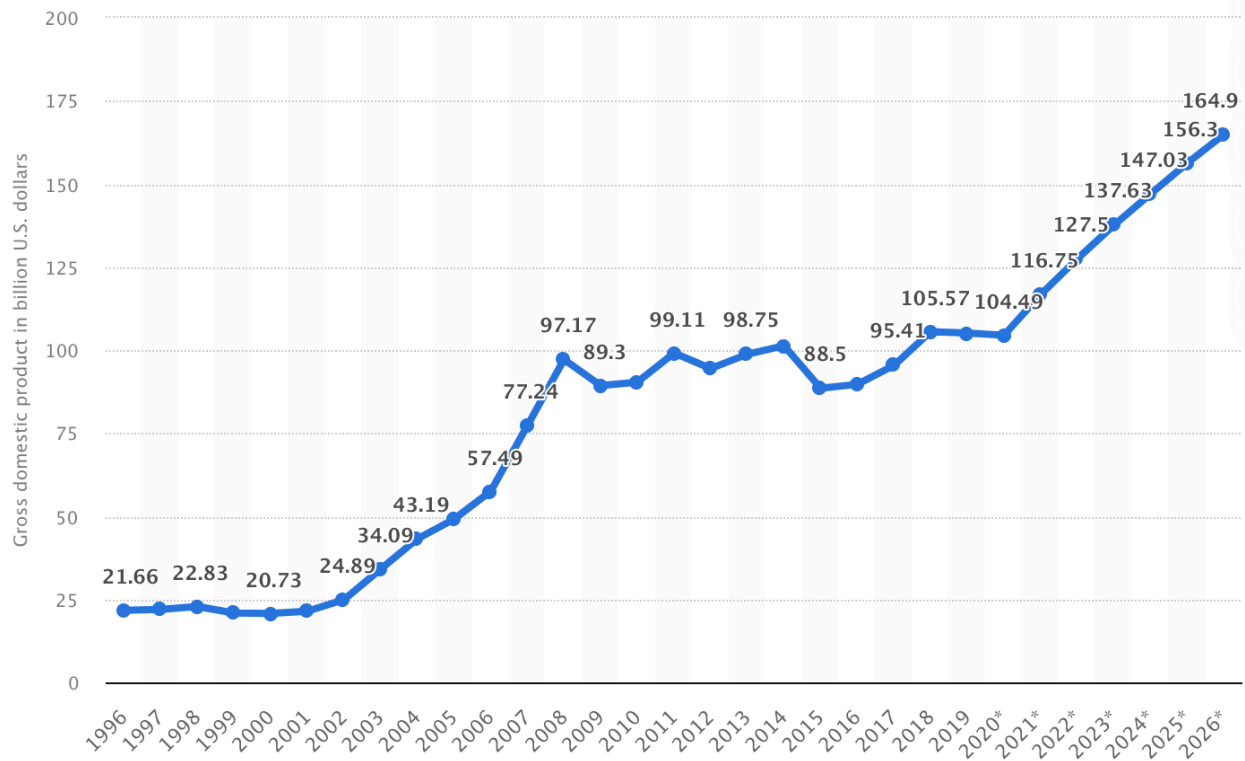


Figure 22. GDP of Slovakia (Source: [Statista](#))

Slovakia has a diverse education system that has been rebuilt since its independence. With a strong to better the country's standings on global rankings, it has made strides to improve and overhaul a great deal of the system. Individual attainment rates vary significantly based on the region that they come from and student performance is ranked average to below average as well.¹²¹

There are several groups of facilities that perform research and innovation in Slovakia. The Slovak Academy of Science performs the bulk of it, however there are over 55 scientific institutes, 13 individual institutes and over 15 universities and higher education facilities that also establish and develop research and innovation programmes within the country.¹²²

2. Brain drain in Slovakia

¹²¹ OECD, Education Policy Outlook, Country: Slovakia (2015). Available at: <https://www.oecd.org/education/Slovak-republic-Country-Profile.pdf>

¹²² European Union, Private Sector Interaction in the Decision Making Processes of Public Research Policies Country Profile: Slovak Republic (2013). Available at: https://ec.europa.eu/invest-in-research/pdf/download_en/psi_countryprofile_slovakia.pdf

Emigration is not a new phenomenon in Slovakia, however it has had periods of massive increases and stabilisation across the years. In fact, there are three main waves of emigration that are characterised in Slovakia's history. These include¹²³:

- ◆ The period between 1899-1913, which is also the first period that allows for statistical data on emigration in the country. Because of the poor living and working conditions at the time, some half a million people (an estimated 17% of the country) left Slovakia to live in the Austro-Hungarian empire as well as the United States and Canada.
- ◆ The period between 1918-1938, which was a period of forced migration and constrained persecution that was a direct effect of World War I and World War II. Because of the political persecutions and inadequate data at the time, there are no official figures however many fled the country during this time.
- ◆ The period between 1960-1989, which can be characterised by a steady decline of the population and overall emigration. Whether it was due to the improved living standards, loyalty to the country or personal reasons, there are little to no emigrations at this time. It's estimated that not even 50,000 people left Slovakia during this period which is less than 1% of the total population.

A new wave of emigration occurred shortly after Slovakia joined the European Union in 2004. This continued further once Slovakia joined the Schengen Area in 2007 which made its market more open and accessible to other nationals. Unfortunately, this wave has only continued to rise, especially after 2015 due to growing political instabilities, economic fluctuations, as well as a lack of good employment. The outflow of people leaving Slovakia on an annual basis is estimated to be between 15,000-20,000 people which is a significant number in comparison to most other years in its history. In fact, 70,000 Slovaks have moved to the United Kingdom since 2007 alone.¹²⁴

There are a few destinations that Slovaks in particular seem to frequently move to, whether temporarily or permanently.

These include the United Kingdom, Ireland, Germany, Austria and the Czech Republic. In the case of the latter, due to the close bond that the Czech Republic and Slovakia have (especially considering their federation with Czechoslovakia), to this day it is one of the biggest destination countries for Slovaks. This is also made available due to a number of bilateral agreements between the two countries that offer easier living and working conditions.¹²⁵

¹²³ European Commission, Migration Report Slovakia (2012). Available at: <https://ec.europa.eu/migrant-integration/librarydoc/international-migration-statistics-in-the-slovak-republic-in-2012>

¹²⁴ Common Home Publication, Migration and Development in Slovakia (2019). Available at: <https://www.caritas.eu/wordpress/wp-content/uploads/2019/06/CommonHomeSlovakiaEN.pdf>

¹²⁵ Migration of highly-educated Slovak nationals within the EU (2015). Available at: <https://hbo-kennisbank.nl/resolve/haagsehogeschool/eyJ0IjogImExNTMoOTE4MjdiOGFiZmNkMTc2NGZiZidmZjgxODExY2Q3MjRiODIzOGJkYjliYzYzNWYyZWU3Njc1NDlmMjAiLC51IHRwczovL3N1cmZzaGFyZWtpdC5ubC9vYmplY3RzdG9yZS8wNjYwOTcoOSo4MjI4LTRkNTctYjA5YSooM2I2YTliMjMoM2MifQ==>

No official database exists about emigration of highly-skilled labour and university educated Slovak nationals that have moved abroad. However, it's estimated that there are over 250,000 Slovaks working abroad today. The Ministry of Labour, Social Affairs and Family of the Slovak Republic together with the Ministry of Education estimate that in 2012 alone, nearly 15% of all graduates left the country to work or continue their studies abroad. This number has increased to close to 20% in 2018, making Slovakia the second biggest export country in terms of students in the whole of the European Union.¹²⁶

As for the reasons why Slovaks choose to leave the country, the answers are similar for low-labour workers and highly-skilled labour.

In a study done by three independent researchers, it was found that the working environment (meaning the price of labour, the contributions to societal institutions as well as the intra-working relationship between colleagues) is the primary reason for emigration. Other reasons, especially for those that are economically lacking, include a lack of suitable employment and extremely low wages in comparison to other neighbouring countries.¹²⁷

¹²⁶ The Slovak Spectator, Turning Brain Drain Into Brain Gain (2021). Available at: <https://spectator.sme.sk/c/22582187/turning-slovakias-brain-drain-into-brain-gain.html>

¹²⁷ Adriana Grenčíková, Ilona Skačkauskienė, Jana Španková, The Features of Labor Emigration in the Slovak Republic (2018). Available at: <https://journals.vgtu.lt/index.php/BTP/article/view/8141>

SLOVENIA

1. Country overview

Slovenia is a country located in Central Europe with approximately 2,10 million inhabitants. It borders Hungary, Croatia, Italy and Austria. The government system is a parliamentary republic, with a President as Head of State and prime minister as Head of Government. In 2004, Slovenia joined the European Union. It is also a member of NATO.¹²⁸

Slovenia has consistently ranked high on the global market, even overcoming advanced economies in the Western European Union with its market complexity. Slovenia ranks as the number 83 economy in the world in terms of GDP (in US dollars), number 56 in total exports, number 55 in total imports, and its economy is ranked at number 38 in terms of GDP per capita. Slovenia's main economic sectors include industry wholesale and retail trade, transport, and accommodation and food services.¹²⁹

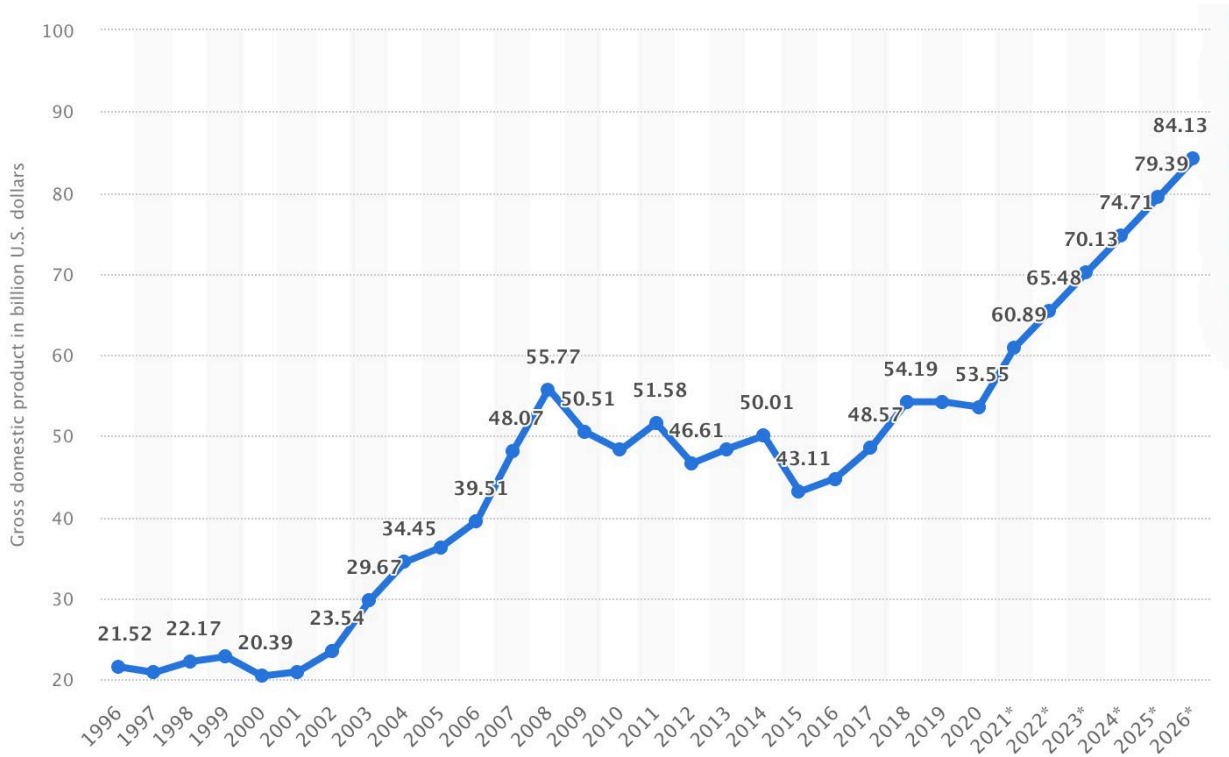


Figure 23. GDP of Slovenia (Source: [Statista](#))

¹²⁸ European Union, Country Profile: Slovenia. Available at: https://european-union.europa.eu/principles-countries-history/country-profiles/slovenia_en

¹²⁹ OECD, Slovenia Economic Snapshot (2021). Available at: <https://www.oecd.org/economy/slovenia-economic-snapshot/>

While Slovenia's share of GDP going towards education remains below the average unlike many developed countries, it still ranks high on an individual and policy level. In that regard, Slovenia's education system is advanced and often produces highly-educated individuals, with a particularly high level of tertiary education in comparison to most neighbouring countries.¹³⁰

There are four types of research organisations in Slovenia: a) universities, b) public research institutes, c) private non-profit organisations and (d) research units within an enterprise or business. The Slovenian Academy of Sciences and Arts is the supreme national institution for the innovation and research sector, however there are others who also develop and sponsor a myriad of programmes and research projects. Slovenia has over 60 higher education institutions and facilities that develop study programmes, research projects and more.¹³¹

2. Brain drain in Slovenia

Because of its position in Europe and the various social, political and economic factors in the area, Slovenia has been a country for immigration and emigration throughout decades. However, there are three distinct periods of emigration that are important for Slovenia. These are¹³²:

- ◆ Before World War I, which is also known as the largest emigration process in Slovenia in its recent history. It's estimated that one third of the country had left during this time, whether due to political or economic reasons at the time. The major destinations for Slovenians at the time included the United States, Austria, Germany, and to a smaller extent, Brazil and Argentina. Shortly after World War II, there was another wave of emigration that amount to over 100,000 people in countries such as the United States, Canada, Australia and parts of Western Europe.
- ◆ The period between 1960-1980, also known as the turnaround period for Slovenia where it went from being a country of emigration to a country of immigration, primarily from other neighbouring states and those that were less developed in the Federation of Yugoslavia at the time. It's estimated that between 9,000-12,000 Slovenes had left Slovenia during this time.
- ◆ Between 1990-2004, which was a period of relative emigration and immigration, spurred on by the Yugoslav wars which gave way to many seeking refuge in Slovenia, as well as Slovenes looking to emigrate out of the country in search of a more stable environment. Political decisions after the 1990s gave way to the

¹³⁰ OECD, Education at a Glance 2021: OECD Indicators, Country: Slovenia (2021). Available at: <https://www.oecd-ilibrary.org/sites/e7ee86cb-en/index.html?itemId=/content/component/e7ee86cb-en>

¹³¹ European Union, Private Sector Interaction in the Decision Making Processes of Public Research Policies Country Profile: Slovenia(2013). Available at: https://ec.europa.eu/invest-in-research/pdf/download_en/psi_countryprofile_slovenia.pdf

¹³² Mojca Ilc Klun, The Importance of Individual Memories of Slovenian Emigrants When Interpreting Slovenian Emigration Processes (2019). Available at: <https://revije.ff.uni-lj.si/arshumanitas/article/download/8687/8660>

“erasure” of some 30,000 permanent residents of Slovenia on top of the thousands that had left prior to this time.

While numbers can vary, since joining the European Union in 2004, Slovenia has kept a steady net migration.

While some of its neighbouring countries like Hungary and Croatia have experienced massive emigration waves, Slovenia’s has remained relatively steady. This is due to a large number of immigrants (mainly from former Yugoslav countries) that have been able to find employment in Slovenia, a movement that has been prevalent for many years even prior to Slovenia’s accession to the European Union. In fact, Slovenia’s migration rate was at a level of 0.96 immigrants per thousand in 2020, which was an increase of 40.16% in comparison to 2015. Close to 18,000 emigrated from Slovenia in 2020 alone, but over 36,000 immigrated to the country.¹³³

This wave is not dissimilar to many others in the last decade in Slovenia. While a number of highly-educated Slovenes are exiting Slovenia to work and live abroad, there are several others who are entering Slovenia, as low-labour, medium-skilled and highly-skilled workers and contributing to the net migration. In the case of Slovenes emigrating from Slovenia, the majority of them emigrate to countries like Austria, Italy, Germany, the United States and other parts of the world.¹³⁴

Currently, it’s estimated that 80,000-100,000 Slovenes live in Italy, over 25,000 in Austria, over 12,000 in Croatia, over 3,000 in Hungary when it comes to the European Union and next to 100,000 are dispersed across the world, the majority of which can be found in countries like the United States, Canada, Australia, Brazil and Argentina. As such, while these are numbers that have been accumulated across the century, it points to several emigration tendencies despite the often-positive net migration that the country experiences.¹³⁵

¹³³ Statistical Office of the Republic of Slovenia, Migration changes 2020 (2021). Available at: <https://www.stat.si/StatWeb/en/news/Index/9650>

¹³⁴ Damir Josipovič, Brain-drain from Slovenia: national and regional aspects of “brain circulation”, Institute for Ethnic Studies (2018). Available at: https://www.researchgate.net/publication/323837518_Brain-drain_from_Slovenia_national_and_regional_aspects_of_brain_circulation

¹³⁵ Anton Polšak, Slovenci v Zamejstvu [Slovenes Abroad], ZRSŠ Seminary: A Different Geography (2010). Available at: http://www.drustvo-dugs.si/tabor-posocje/Slovinci_v_zamejstvu.pdf

CHAPTER III

Associated Countries (Western Balkans)

ALBANIA

1. Country overview

Albania is a country located in South-eastern Europe in the Balkan Peninsula with approximately 2,83 million inhabitants. It borders Greece, North Macedonia, Montenegro, and Kosovo. The government system is a democratic republic, with a president as Head of State, and prime minister as Head of Government. In 2009, Albania first submitted its formal application to join the European Union. It is a member of the Central European Union Free Trade Agreement (CEFTA), and NATO.¹³⁶

Economically wise, Albania has seen growth over the past decade compared to its period prior to the financial crisis. Albania ranks as number 122 in the world in terms of GDP (in US dollars), number 135 in total exports, number 131 in total imports, and its economy is ranked at number 103 in terms of GDP per capita. The economy is mainly consumption and investment-driven, specifically foreign direct investments.¹³⁷

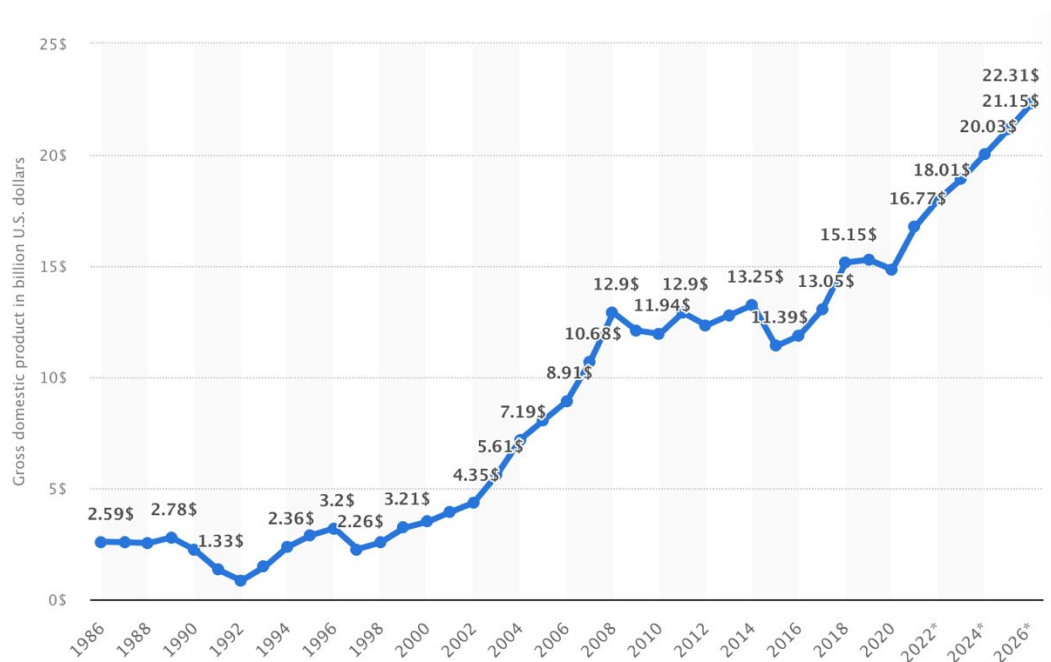


Figure 24. GDP of Albania (Source: [Statista](#))

¹³⁶ United Nations, National Implementation of Agenda 21, Country Profile: Albania. Available at: <https://www.un.org/esa/earthsummit/alban-cp.htm>

¹³⁷ OECD, Competitiveness in South East Europe 2021: A Policy Outlook, Country Profile: Albania (2021). Available at: <https://www.oecd-ilibrary.org/sites/6275e653-en/index.html?itemId=/content/component/6275e653-en>

As part of this process, when it comes to education, Albania has introduced a myriad of changes in its education policies, with reforms that range from decentralisation of the school system, to competency-based curriculums, and access to education on a country-based scale. Higher education has seen a massive improvement over the last few years, with high enrolment rates for students in over 15 universities and higher education institutions.¹³⁸

The Agency for Research, Technology and Innovation (ARTI) within the Ministry of Education and Sports (MES) is the main body responsible for research and innovation in the country. Among other activities, this body serves as the main coordinator and guide for sustainable innovation, research and technological progress. Moreover, the Ministry of Innovation and ICT (MITIK) also plays a key role in overseeing the activities of the ARTI. In addition to this, the Rectors' Conference and National Agency for Information Society (NAIS) also contribute to developing and expanding on research and innovation in Albania.¹³⁹

2. Brain drain in Albania

Historically, Albania has been a country producing out-migration labour for years. The only exception where migration was stifled in the country was during the communist period where all forms of migration were prohibited. Otherwise, Albanians have generally been a nation of movement. This is especially evident post-1990, where after the fall of the communist regime and rise of declining living standards, emigration and brain drain became a comprehensive issue within Albania.

As such, the process of brain drain in Albania can be categorised in three waves of emigration.¹⁴⁰

- ◆ The first wave of emigration follows the mass surge of relocation between the years 1990-1997. This is closely associated with the poor living standards, low employment, and physical insecurity of citizens that brought upon a phenomenon of several mass exit attempts. In 1990, close to 4,000 Albanians forced their way to embassies of Western nations in seek of refuge. This later continued into border crossings to Greece and various escape attempts on shipping vessels to Italy that lasted for close to a decade. By August 1991, around 200,000 Albanians had left the country. This number escalated by 1997, where close to 450,000 or 14% of the population had been assumed as permanent emigrants.

¹³⁸ OECD, OECD Reviews of Evaluation and Assessment in Education: Albania (2020). Available at: <https://www.oecd.org/education/oecd-reviews-of-evaluation-and-assessment-in-education-albania-d267dc93-en.htm>

¹³⁹ South-Eastern European Data Services (SEEDS), Report on evaluation of research and legal conditions in Albania (2016). Available at: https://seedsproject.ch/wp-content/uploads/2015/06/SEEDS-Report-Albania_FINAL.pdf

¹⁴⁰ Albanian Institute for International Studies, Albanian Brain Drain: Turning the Tide (2005). Available at: <https://www.tandfonline.com/doi/full/10.1080/21632324.2019.1677072>

- ◆ The second wave is keener to traditional economic migration, where between the late 1990s and mid 2000s, together with the transition of the Albanian governmental system and economy, a significant percentage of the labour force fled in seeking better working and living conditions with the massive policy changes that left a number of highly-educated people disadvantaged. There are no real estimates for this period, however it is assumed to be in the thousands.
- ◆ The third wave is interestingly seen as a specific »educational« model of emigration, whereby young people and researchers are seeking out better opportunities for themselves in the field of high education. Thanks to individual surveys and reports, this wave and subsequent group of people are also the ones who would like to return to Albania one day, provided that the living standards and working conditions improve in the long run. Noting the variables and fluctuations that this wave has, there are no specific numbers that estimate how many people have fled the country since the mid 2000s, however data from other countries, universities and research centres show that there is not a significant decrease of emigration. This wave is characterised by the stark difference in the emigration profile vs. that of the emigrants before the 2000s. Most people emigrating include Albanian-educated professors and technicians. These are often young in age, with the intention to upgrade their skills and adapt to a new life abroad. Another set includes foreign-educated Albanians who have spent the majority of their lifetimes abroad.

Estimates assume that every year, close to 3,000 Albanians enrol in higher education institutions worldwide. In particular, the favoured countries for most are Italy, France, Germany, and the United States. This also means that close to 30% of all Albanians that are enrolled in higher education, receive it in Western countries.¹⁴¹ Italy seems to be a favoured location for most students in higher education, whereby close to 12,000 students enrol in Italian universities each year.¹⁴²

Following the statistics as to where people are leaving to, there have been less studies done as to the reasons why people do so. No official governmental or research exists to try and understand why Albanians do not wish to live or work in the country, and more importantly, return. In 2019, in a survey done by the Albanian Institute of International Studies¹⁴³, these questions among several others were tackled in an attempt to statistically understand the brain drain situation in the country. It included PhD students, professors and researchers.¹⁴⁴

¹⁴¹ The term “Western countries” has many definitions. For the purposes of this paper, it is defined through the common political and economic lens in global literature, which includes a wide array of states. More information, including where the term comes from, can be found at: <https://worldpopulationreview.com/country-rankings/western-countries>

¹⁴² Jonathan Chaloff, Albania and Italy Migration policies and their development relevance A Survey of Innovative and “Development Friendly” Practices in Albania and Italy (2008). Available at: https://www.cespi.it/sites/default/files/documenti/wp_51-albania_and_italy-chaloff.pdf

¹⁴³ The Albanian Institute for International Studies is a non-governmental, non-profit research and policy think tank based in Tirana, Albania. More information can be found at: <https://www.aiis-albania.org/>

¹⁴⁴ Albanian Institute for International Studies, Albanian Brain Drain: Turning the Tide (2019). Available at: http://pdc.ceu.hu/archive/00003180/01/albanian_brain-drain.pdf

Of this research, two main conclusions were formed.

First, out of the students questioned and surveyed, there was a split in answers as to if they would ever consider returning to the country. In fact, the answers swayed 21% “yes”, 37% “maybe”, and 42% “no”. From the ones who answered yes, the reasons would be to improve the country and society they live in through working in academia, research, or politics.

Second, the respondents that did not want to return to Albania, did so by answering the various PUSH and PULL factors that led them to emigrating in the first place. These included: horrible working standards, low living standards, difficulties in finding and keeping employment, the inability to adapt to the “standard” Albanian lifestyle, losing ties with Albania, and personal reasons, which often included starting or moving families abroad.

BOSNIA AND HERZEGOVINA

1. Country overview

Bosnia and Herzegovina is a country located in South-eastern Europe in the Balkan Peninsula with approximately 3,21 million inhabitants. It borders Croatia, Montenegro and Serbia. The government system is a democratic republic, with a presidential union of three presidents as Head of State and prime minister as Head of Government. It is a member of CEFTA.¹⁴⁵

Bosnia and Herzegovina has had several years of reforms on a political and economic level to better the situation in the country. As a result, while Bosnia and Herzegovina has made strides and economic growth in the past few years, the economy is still fluctuating negatively in comparison to most of the region. Bosnia and Herzegovina ranks as the number 112 economy in the world in terms of GDP (in US dollars), number 101 in total exports, number 96 in total imports, and its economy is ranked at number 97 in terms of GDP per capita (in US dollars). The main industries include industry, wholesale and retail, accommodation and food services.¹⁴⁶

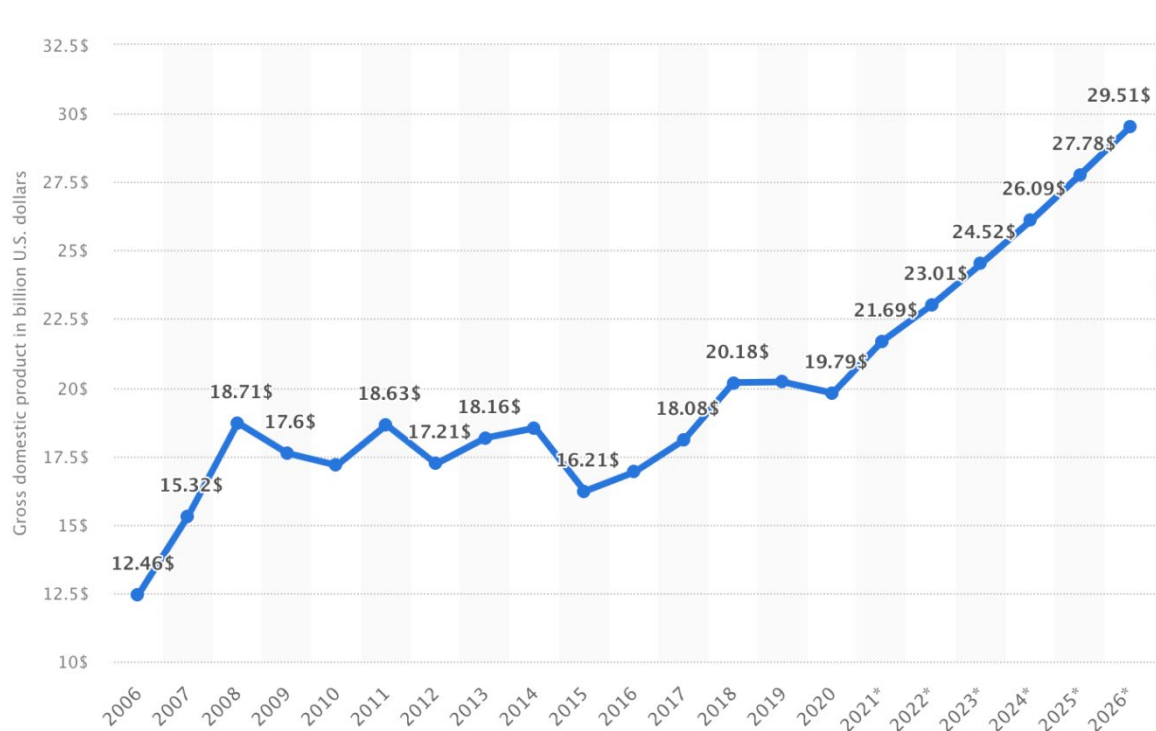


Figure 25. GDP of Bosnia and Herzegovina (Source: [Statista](#))

¹⁴⁵ European Commission, European Neighbourhood Policy and Enlargement Negotiations, Country: Bosnia and Herzegovina. Available at: https://ec.europa.eu/neighbourhood-enlargement/enlargement-policy/negotiations-status/bosnia-and-herzegovina_en

¹⁴⁶ OECD, Multi-dimensional Review of the Western Balkans: Assessing Opportunities and Constraints, Country: Bosnia and Herzegovina (2021). Available at: <https://www.oecd-ilibrary.org/sites/8e6d1ccd-en/index.html?itemId=/content/component/8e6d1ccd-en>

Bosnia and Herzegovina consistently ranks low on a micro and macro level in terms of education, both in the Western Balkans as well as the general European region. Low spending for education, lack of infrastructure, huge societal inequalities and regional differences make it difficult for a flourishing education system. Moreover, on an individual level, students perform below average than most of their regional peers. As such, Bosnia and Herzegovina has made strides to fully restructure their education system.¹⁴⁷

Bosnia and Herzegovina has over 35 universities and higher education institutes. While there has been an increase of students enrolling in various tertiary programs, the sheer number of people leaving has made it impossible to properly track and analyse individual potentials. Moreover, the country spends less than 0.2% of its GDP to education, research and innovation which means there is little to no national incentive to restructure and develop any research programmes in the near future.¹⁴⁸

2. Brain drain in Bosnia and Herzegovina

Bosnia and Herzegovina follows a similar pattern of emigration as most other Yugoslav countries.

Even more developed states such as Slovenia had the same period of emigration prior to Yugoslavia, and Bosnians during that time also followed suit, emigrating to find better employment in countries like Germany, Austria, France in Western Europe, as well as the United States, Canada, Australia and New Zealand. During the period of relative stability within Yugoslavia, there was less emigration occurring due to a combination of political, societal and lifestyle factors.¹⁴⁹

A sudden and stark emigration period was between the years 1990-1995, which was during the Yugoslav wars in which Bosnia and Herzegovina was the main centre of. As such, thousands of refugees, asylum seekers and economic emigrants left the country in search of a better future and life. Over 2,8 million Bosnians were displaced during the war and over 700,000 sought asylum abroad. This made it the largest mass migration movement since World War II.¹⁵⁰

Today, there is no official data for emigration. This is due to the fact that Bosnian citizens are not obliged by law to cancel their permanent or temporary residence in Bosnia and Herzegovina once they leave the country. This makes it practically

¹⁴⁷ UNICEF and OECD, PISA by Region, Country: Bosnia and Herzegovina (2019). Available at: https://pisabyregion.oecd.org/bosnia_and_herzegovina/

¹⁴⁸ Global South East Europe, Unleashing the Transformation Potential for Growth in the Western Balkans, Western Balkans Summit (2019). Available at: https://www.oecd.org/south-east-europe/programme/Unleashing_the_Transformation_potential_for_Growth_in_WB.pdf

¹⁴⁹ Ministry of Security of Bosnia and Herzegovina, Bosnia and Herzegovina Migration Report for the Year 2009 (2010). Available at: <http://www.mhrr.gov.ba/iseljenistvo/Publikacije/MigrationProfile2010ENGLISHFINAL.pdf>

¹⁵⁰ The New York Times, The Dayton Accords: A Status Report (1995). Available at: <https://archive.nytimes.com/www.nytimes.com/specials/bosnia/context/dayton.html>

impossible to follow or track any accurate data. As such, while the Agency of Statistics noted that in 2017, only 4,270 citizens cancelled their residence, nearly 15,000 have been estimated to leave in that year alone.¹⁵¹

What has put things into perspective is the official census of Bosnia and Herzegovina in 2013 that indicated that 60% of all Bosnians have moved from their original place of birth. While this includes other municipalities in Bosnia and Herzegovina, it also combines temporary work and living in other countries. This, combined with records from other countries' official data reports note that over 1,600,000 Bosnians are living outside of Bosnia. This only takes into consideration the first generation of emigrants for the year 2013, but it represents 44.5% of the total population.¹⁵²

In a survey conducted by the United States Agency for International Development (USAid),¹⁵³ respondents that included young people between the ages of 15-24, students, and researchers were questioned about the general political and economic landscape in Bosnia and Herzegovina. This also included questions as to why young people prefer to live abroad. There were some findings.¹⁵⁴

- ◆ Firstly, the number of people wanting to leave the country had remained relatively unchanged from two years prior to this. In fact, nearly 45% of the respondents noted that they were willing to leave Bosnia and Herzegovina for good if it meant that they could have a stable life abroad. This was even more prevalent in teenagers (15-18) than young adults.
- ◆ Secondly, the biggest group willing to leave the country were those who did not have secondary education or those who had an equivalent of it. Students who had reached a tertiary level were less likely to leave the country at 40% of all respondents with that level of education.
- ◆ Lastly, young people who were detached from the political situation in Bosnia and Herzegovina were less likely to express a wish to leave the country. Those who did not read the news, and were not politically active were the least likely to answer in the affirmative on the question of potentially leaving the country.

As with most other PUSH and PULL factors, the main reasons included a better opportunity in life, access to better public services, wanting to live in a politically stable

¹⁵¹ Agency of Statistics of Bosnia and Herzegovina, Pregled knjiga [Official Accounts Book] (2018). Available at: <https://popis.gov.ba/popis2013/knjige.php?id=1>

¹⁵² Bosnia and Herzegovina Migration Profile, For the Year 2017. (2017). Available at: http://www.msb.gov.ba/PDF/MIGRACIONI%20PROFIL_2017_%20ENG_FINAL.pdf

¹⁵³ The United States Agency for International Development is an independent agency within the United States federal government that is responsible for delivering foreign aid and assistance. For more information, visit: <https://www.usaid.gov/>

¹⁵⁴ USAid Bosnia and Herzegovina, National Survey of Citizens' Perception in Bosnia and Herzegovina 2017: Findings Report (2018). Available at: <http://www.measurebih.com/uimages/National20Survey20of20Citizens20Perceptions20201720Report.pdf>

country, the inability to find work in Bosnia and Herzegovina and not agreeing with the Bosnian lifestyle.

MONTENEGRO

1. Country overview

Montenegro is a country located in South-eastern Europe on the Balkan Peninsula with approximately 621,718 inhabitants. It borders Croatia, Bosnia and Herzegovina, Serbia, Kosovo and Albania. The government system is a parliamentary republic, with a president as Head of State and prime minister as Head of Government. Montenegro is a member of CEFTA. It is also a member of NATO.¹⁵⁵

Montenegro has made significant changes to its overall policies on the economy since its independence. With recent policy changes on tax reform, stabilising pillars of the European Union and microeconomic improvements, it has become one of the growing economies in the Western Balkans. Montenegro ranks as the number 149 economy in the world in terms of GDP (in US dollars), number 168 in total exports, number 150 in total imports, and its economy is ranked as number 78 in terms of GDP per capita. The main industries include transportation, wholesale and retail trade, as well as accommodation and travel.¹⁵⁶

¹⁵⁵ European Commission, European Neighbourhood Policy and Enlargement Negotiations, Country: Montenegro. Available at: https://ec.europa.eu/neighbourhood-enlargement/enlargement-policy/negotiations-status/montenegro_en

¹⁵⁶ OECD, Competitiveness in South East Europe 2021: A Policy Outlook, Country: Montenegro (2021). Available at: <https://www.oecd-ilibrary.org/sites/0ae7168b-en/index.html?itemId=/content/component/0ae7168b-en>

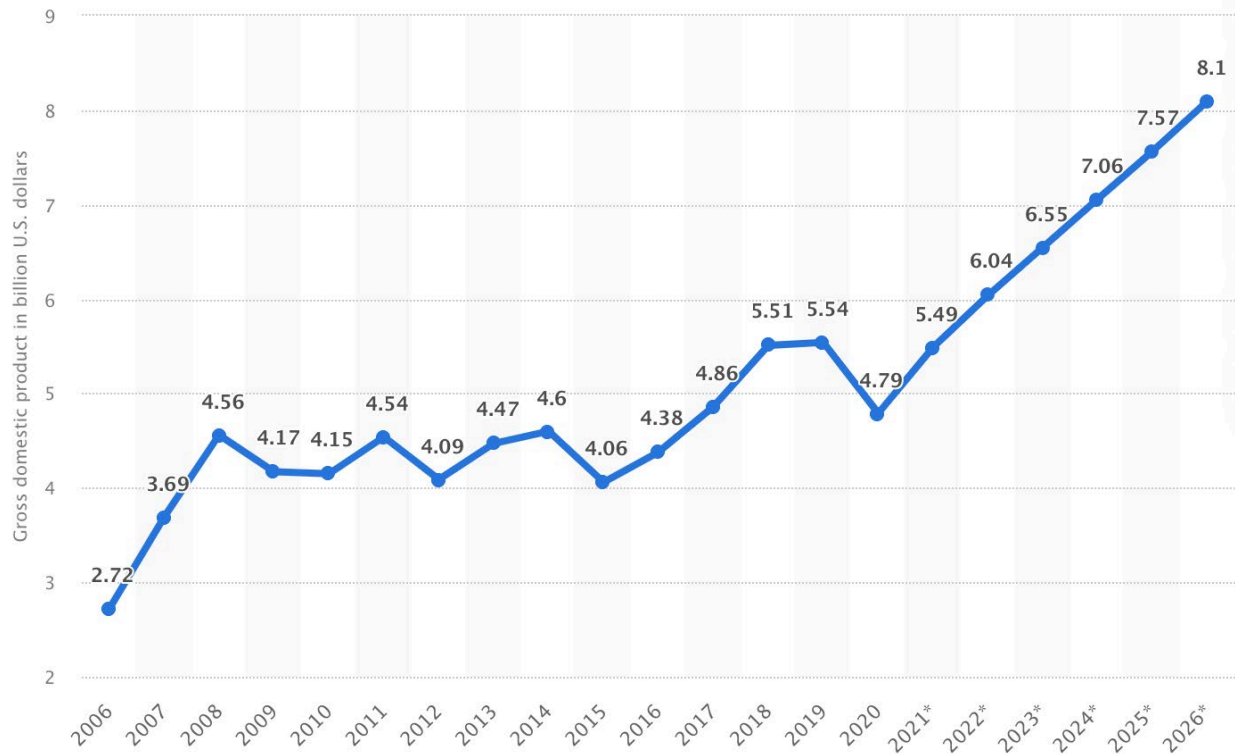


Figure 26. GDP of Montenegro (Source: *Statista*)

In an effort to integrate and improve Montenegro towards the European Union, it has made significant changes in its education policies since the early 2000s. Montenegrin students consistently rank above average in comparison to most of its Western Balkan counterparts, and the country spends a better than average GDP to education given its funding, albeit still below average on a worldwide scale.¹⁵⁷

The Ministry of Education and Sports as well as the Ministry of Science are the supreme bodies that govern most higher education and science, research and technological development policies in the country. Moreover, they are the main funding bodies within the country. The Montenegrin Academy of Sciences and Arts is the main body that governs most innovation, science and research projects in the country. In addition to this, Montenegro has several independent bodies and research facilities that develop research and innovation policies in the country. These include the Council for Scientific Research Activities and the Agency for International Scientific Educational, Culture and Technological Cooperation.¹⁵⁸

2. Brain drain in Montenegro

¹⁵⁷ UNICEF and OECD, PISA by Region, Country: Montenegro (2019). Available at: <https://pisabyregion.oecd.org/montenegro/>

¹⁵⁸ EURAXESS, Researcher's Guide to Montenegro (2019). Available at: https://cdn4.euraxess.org/sites/default/files/domains/me/vodic_newfor_web.pdf

Montenegro does not have a developed or comprehensive system of migration management. As such, there is no precise data as to how many people have emigrated outside the country, nor why they have chosen to do so. Montenegro has two registers for collecting data on migrations, but none deal with emigrants from Montenegro. As such, any and all data is based on other statistical offices' information or individual reports.¹⁵⁹

What is known is that Montenegro has generally been a country of emigrants throughout history. Similar to other former-Yugoslav countries, it has an established pattern of settling outside Montenegro in the 1960s, going towards the 1990s where there was a surge of refugees and asylum seekers as well as economic migrants. By 2003, an estimated 59,000 Montenegrins had left the country.¹⁶⁰

Montenegro has an overall migration stock increase since a decade ago. From 148,982 Montenegrins in 2010 to 153,009 in 2019. While this is around 4,000 people, statistical information from other countries show that currently there are an estimated 200,000 Montenegrins living outside of Montenegro. That means that one third of all Montenegrins are not living in Montenegro.¹⁶¹

Germany is the number one destination for most Montenegrin emigrants. Italy and Luxembourg remain a far second. Another top destination is Slovenia, followed by Croatia as after both countries accessed into the European Union, Montenegrins chose those as attractive destinations due to cultural proximities.¹⁶²

Reasons-wise, Friedrich Ebert Stiftung¹⁶³ implemented a survey with Montenegrin students (both in secondary and tertiary education) about the reasons why people choose to leave the country and how to prevent that on a policy level in the future.¹⁶⁴

In it, nearly 50% of all young people who were surveyed answered in the affirmative, in that they wished that in some capacity, they would leave Montenegro. Those aged 18-21 were an overwhelming majority, while the rest were apprehensive or answered negatively. As such, it's estimated that one in four Montenegrins have the

¹⁵⁹ European Training Foundation, Na koji način migracija, ljudski resursi i tržište rada međusobno djeluju u Crnoj Gori [How migration, human resources and the labor market interact in Montenegro] (2021). Available at: https://openspace.etf.europa.eu/sites/default/files/2021-07/Migration%20human%20capital%20and%20labour%20market%20in%20Montenegro_Montenegrin%20version_o.pdf

¹⁶⁰ Branka Racković, Unemployment in Montenegro, Employment Agency of Montenegro (2005). Available at: http://siteresources.worldbank.org/PGLP/Resources/Branca_Rackovic.ppt#256.1

¹⁶¹ European Training Foundation, How Migration, Human Capital and the Labor Market Interact in Montenegro (2021). Available at: https://www.etf.europa.eu/sites/default/files/2021-07/migration_montenegro_o.pdf

¹⁶² Eurostat, Migration Movements: Montenegro (2019). Available at: https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Enlargement_countries_-_statistics_on_migration,_residence_permits,_citizenship_and_asylum

¹⁶³ The Friedrich Ebert Stiftung Foundation is the oldest political foundation in Germany that focuses on research, developmental aid and innovation.

¹⁶⁴ Friedrich Ebert Stiftung, Economic migrations from Montenegro to the EU, European Movement in Montenegro (2019). Retired from: <http://www.emim.org/cgi-sys/suspendedpage.cgi>

desire to, or are getting ready to leave the country. The reasons differ, however the vast majority (over 40%) answered that they were looking for an improvement of their living standards. The second highest reason was higher salaries, followed by better employment prospects and an escape from a bad situation, which could be both personal and economical.

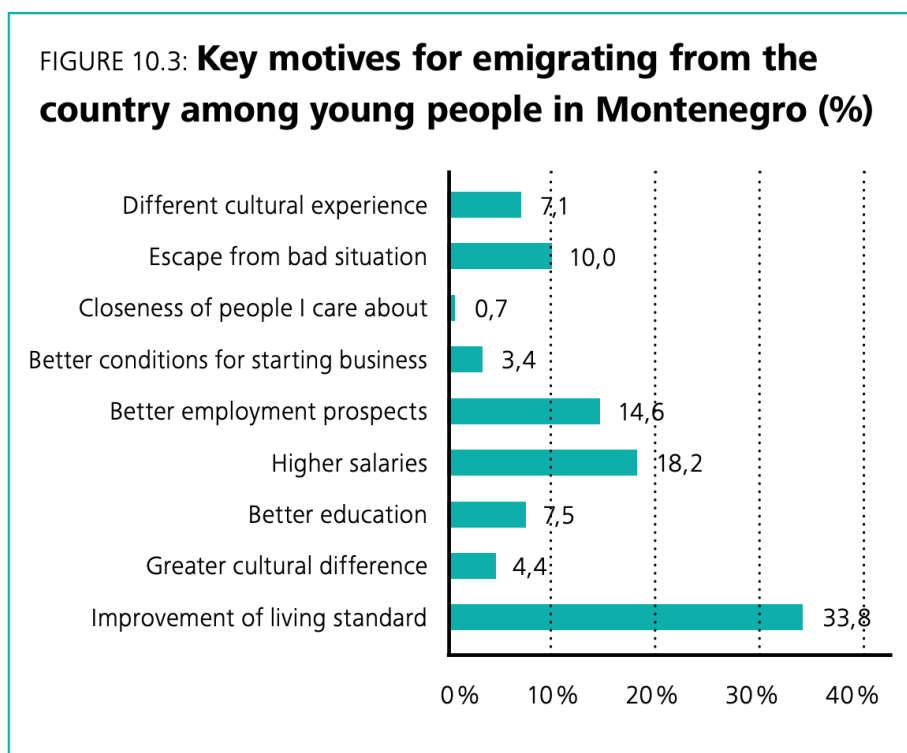


Figure 27. Key motives for emigrating from the country among young people in Montenegro (Source: FES)

NORTH MACEDONIA

1. Country overview

North Macedonia is a country located in South-eastern Europe on the Balkan Peninsula with approximately 1,83 million inhabitants. It borders Serbia, Bulgaria, Greece, Kosovo and Albania. The government system is a parliamentary republic, with a president as Head of State and prime minister as Head of Government. Montenegro is a member of CEFTA. It is also a member of NATO.¹⁶⁵

North Macedonia has undertaken a series of policy changes to adapt and integrate into the European Union requirements for the Single Market. As such, a series of adaptations have been done on a national and policy level. It remains a rather constrained economy in terms of industry, trade and services. North Macedonia ranks

¹⁶⁵ European Commission, European Neighbourhood Policy and Enlargement Negotiations, Country: North Macedonia. Available at: https://ec.europa.eu/neighbourhood-enlargement/enlargement-policy/negotiations-status/north-macedonia_en

as the number 133 economy in the world in terms of GDP, number 98 in total exports, number 102 in total imports, and its economy is ranked at 98 in terms of GDP per capita. The main economic sectors include industry, wholesale and retail trade as well as transport.¹⁶⁶

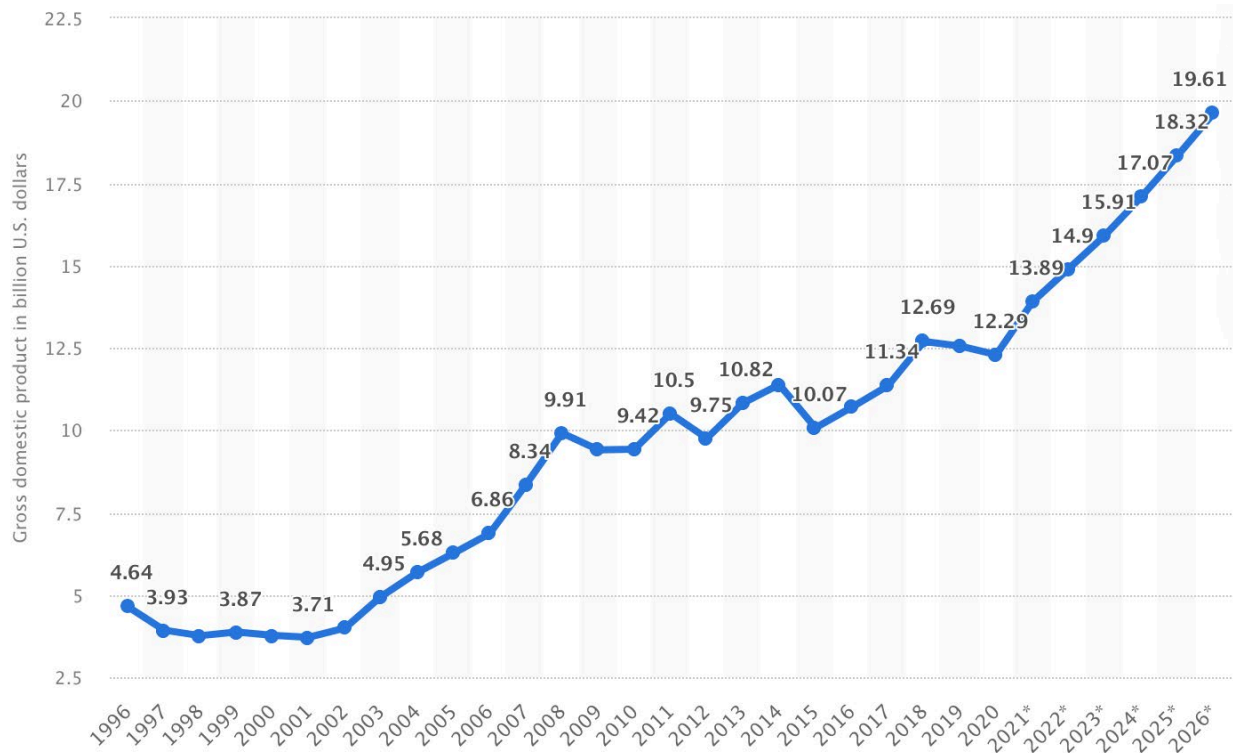


Figure 28. GDP of North Macedonia (Source: Statista)

Education-wise, North Macedonia is lagging behind in developing an adequate policy, second only to Kosovo. It allocates the smallest percentage of GDP to education in the region, which impacts students' individual performances. Moreover, while the education system remains free, it is largely underfunded and lacks appropriate infrastructure. North Macedonia has over 60 universities and higher education institutions, as well as individual facilities for research.¹⁶⁷

The Macedonian Academy of Sciences and Arts is the highest scientific, scholarly and artistic institution in the country. Aside from planning and co-operating with the Government on various national policies with regards to education, it also does significant research and innovation projects. Moreover, together with various other

¹⁶⁶ OECD, Competitiveness in South East Europe 2021: A Policy Outlook, Country: North Macedonia (2021). Available at: <https://www.oecd-ilibrary.org/sites/cf2e0fc7-en/index.html?itemId=/content/component/cf2e0fc7-en>

¹⁶⁷ OECD, OECD Review of Evaluation and Assessment in Education in North Macedonia (2019). Available at: <https://www.unicef.org/northmacedonia/media/4866/file/OECD%20study%20ENG%20EDU.pdf>

institutes and organisations, it makes up the majority of the scientific research in the country.¹⁶⁸

2. Brain drain in North Macedonia

North Macedonia has been steadily facing a major issue with brain drain. In 1960, the country's population was 1.3 million people, slowly gaining more people until it reached a peak of over 2 million in 2005. Since then, the population has been decreasing as a result of natural causes such as a negative birth rate and heavy emigration. In fact, just between 2012-2016, over 113,975 Macedonians left the country to emigrate to mostly Germany, Switzerland, Austria and the United States, which amounts to 5.5% of the total population. Aside from this, North Macedonia has a massive diaspora in Slovenia and Croatia, even though data is only obtained through other statistical offices rather than official Macedonian sources.¹⁶⁹

North Macedonia does not have a comprehensive system of migration reports or statistical data, making tracking how many people have emigrated the country very difficult.

As such, while the State Statistical Office of the Republic of North Macedonia has remained that only 9,170 people have left the country between 2005-2014, declining birth rates, education numbers and employment vacancies have shown otherwise. Just in 2013 alone, it's estimated that over 626,412 people left the country due to the overarching political tension at the time. This points to over 28% of the population having left just in the period of one decade.¹⁷⁰

Similarly to other Western Balkan countries, most emigrants have a profile of young, single and looking for better employment or education. Thanks to the European Union's liberalised visa regime, it has made Macedonian citizens be able to access other European Union countries with less administrative restrictions. Moreover, due to the fact that a large number of Macedonians obtain tourist visas before procuring jobs, and another large percentage obtain Bulgarian passports for easier employment in the European Union, it's difficult to have an exact estimate.¹⁷¹

Macedonian emigration can be generally split into three types¹⁷²:

¹⁶⁸ European Union, Private Sector Interaction in the Decision Making Processes of Public Research Policies Country Profile: North Macedonia (2013). Available at: https://ec.europa.eu/invest-in-research/pdf/download_en/psi_countryprofile_macedonia.pdf

¹⁶⁹ OECD, International Migration Database. Available at: <https://stats.oecd.org/Index.aspx?DataSetCode=MIG#>

¹⁷⁰ Margareta Nikolovska, Employment, Education and Emigration: the FYR of Macedonia (2007). Available at: <https://www.tandfonline.com/doi/abs/10.1080/0379772042000331606>

¹⁷¹ Stefan Stamenković, Key Migration Trends in Macedonia (2019). Available at: <http://patchworkbalkan.org/blogs/key-migration-trends-macedonia>

¹⁷² Ljupcho Naumovski, The Attraction of Intellectual Migration - Brain Drain or Exodus of Human Capital in Southeast Europe - Western Balkans and Macedonian Transitional Conditions (2021). Available at: <https://www.growingscholar.org/journal/index.php/TIJOSW/article/view/113>

1. Permanent family emigration, which is followed by brain drain. These are typically young people who have emigrated from the country whether through schooling or work, have the profile of a highly-educated and highly-skilled worker or student and soon bring their families to the residential country in question. While countries vary, the most popular destinations for this include Germany, Austria, Switzerland and Slovenia.
2. Temporary economic emigration. This is more frequent and well-documented, and it typically includes young people between the ages of 18-26 who wish to travel abroad for some time and explore different areas of the world. The top destinations for this are the United States and Germany.
3. Refugee migration. Whether due to political reasons or societal differences, a great number of Macedonian citizens are looking for asylum in a number of European Union countries with massive numbers. In fact, citizens who are seeking some form of refugee protection has increased for more than 600% since 2010.

Following similar trends from neighbouring countries, most young people do not see a future in North Macedonia.

This is even more apparent when noting the youth unemployment in the country that stands at 40.8% which is 5-12.4 higher than its neighbours in the region. Unemployment, lack of adequate studies, not seeing a future in the country, an unstable political future and general living conditions are among the main reasons why people choose to leave the country. In fact, North Macedonia ranked 133 out of 142 in the world when it came to the issue of brain drain in 2011. The trend of emigration has not stopped since, making it one of the top 20 countries of human export in the world.¹⁷³

¹⁷³ Nermin Oruc, Danica Santić, Highly-Skilled Return Migrants to the Western Balkans: Should we count (on) them?, Prague Process (2019). Available at: <https://www.icmpd.org/file/download/48154/file/Policy%2520brief%2520%25E2%2580%259CHighly-Skilled%2520Return%2520Migrants%2520to%2520the%2520Western%2520Balkans%2520Do%2520we%2520count%2520%2528on%2529%2520them%25E2%2580%259D%2520EN.pdf>

SERBIA

1. Country overview

Serbia is a country located in South-eastern Europe on the Balkan Peninsula with approximately 6,9 million inhabitants. It borders Bosnia and Herzegovina, Bulgaria, Croatia, Hungary, Kosovo, North Macedonia and Montenegro. The government system is a semi-parliamentary republic, with a president as Head of State and prime minister as Head of Government. Montenegro is a member of CEFTA.¹⁷⁴

Serbia has had major improvements in the sphere of its economy since the early 2000s. By developing a more open market and introducing more trade and a complex economy, as well as a number of foreign investments, it has risen to become one of the most powerful economies in the region. Serbia is ranked as the number 87 economy in the world in terms of GDP (in US dollars), number 73 in total exports, number 71 in total imports, and its economy is ranked at number 89 in terms of GDP per capita. The main industries in the country include industry, trade, as well as wholesale retail and services.¹⁷⁵



Figure 29. GDP of Serbia (Source: [Statista](#))

¹⁷⁴ European Commission, European Neighbourhood Policy and Enlargement Negotiations, Country: Serbia. Available at: https://ec.europa.eu/neighbourhood-enlargement/enlargement-policy/negotiations-status/serbia_en

¹⁷⁵ OECD, Competitiveness in South East Europe 2021: A Policy Outlook, Country: Serbia(2021). Available at: <https://www.oecd-ilibrary.org/sites/acb449da-en/index.html?itemId=/content/component/acb449da-en>

Education-wise, Serbia has noted improvements with regards to access to education, international assessments, as well as individual improvements among high-achieving students. While the GDP devoted to education is relatively high in comparison to most others in the region, it still remains below average in comparison to other countries. It has also introduced new policies with regards to improving education policies in general.¹⁷⁶

The Serbian Academy for Sciences and Arts remains the top scientific institution in the country. It is responsible for a number of policies, including introducing and supporting the government with various research projects, conducting its own research and innovation programmes, developing high-education policies among other things. Moreover, Serbia has over 100 universities, high education institutions, individual education facilities and research institutes that help and develop research and innovation in the country.¹⁷⁷

2. Brain drain in Serbia

With a long tradition of emigration, Serbia is very familiar with the flow of talent and workers.

Just by the end of the 19th century, Serbia had six waves of migration that led to various instances of brain drain due to highly-skilled workers and high-educated students leaving the country. Between 1960-1980, a large number of Serbians left for temporary work in Western and Northern Europe to help build infrastructures and industrialise various parts of the continent that were hit by war. Because of lack of sufficient data, the numbers are not exact, but a number of highly educated professionals, scientists, researchers and technicians left during this time.¹⁷⁸

Seeing as Serbia lacks quality data on emigration such as migration statistics and registers, the only official source of evidence is a national census. However, seeing as the last one was carried out in 2011 and noted 313,411 Serbians living and working abroad, reports from other countries' statistical offices as well as independent studies have noted that between 1990-2018, over 750,000 Serbians have left the country overall, 79% of which are to European Union countries.¹⁷⁹

Today, the population in Serbia is somewhat less than 7 million with a continuing negative trend due to the mortality rate surpassing the birth rates, resulting in excessive

¹⁷⁶ OECD, OECD Reviews of Evaluation and Assessment in Education: Serbia (2020). Available at: <https://www.oecd.org/countries/serbia/oecd-reviews-of-evaluation-and-assessment-in-education-serbia-225350d9-en.htm>

¹⁷⁷ Portal on Central Eastern and Balkan Europe by IECOB & AIS, Research institutes and scholars in Serbia (2019). Available at: <http://www.pecob.net/Research-istitutes-associations-scholars-in-serbia>

¹⁷⁸ Vladimir Grečić: Srpska stvaralačka inteligencija u rasejanju, Matica srpska [Serbian intelligence in the diaspora, a Serbian view] (2019). Available at: <https://scindeks.ceon.rs/article.aspx?artid=0085-63202101195M>

¹⁷⁹ Talas, Čak i da nikada ne uđemo u EU, privreda Srbije je potpuno vezana za moćne evropske privrede [Even if we never enter the EU, Serbia's economy is fully tied to powerful European economies] (2019). Available at: <https://talas.rs/2018/06/27/srbija-vezana-za-eu/>

ageing as well as brain drain. This has brought a steady population decline since 2002. The Government of Serbia's official reports estimate over 2,700,000 Serbians currently living abroad with around 1,200,000 doing it in the United States and Canada alone. This combines permanent work, temporary work as well as part-time jobs. It also does not take into consideration students and travelling researchers.¹⁸⁰

For highly-educated workers however, the destinations tend to differ. In fact, the total number of Serbians that are emigrating that have a form of high education do so to Austria, Sweden, France, Switzerland and Italy as the top destinations. When it comes to the reasons, the PUSH and PULL factors are similar to other countries in the region, and when it comes to highly-skilled workers in particular, they include wanting a better education, better lifestyle, higher wages, more adequate living conditions as well as the uncertain political climate in Serbia.¹⁸¹

¹⁸⁰ Komesarijat za izbeglice i migracije, 2017 Migracioni profil [Commissariat for Refugees and Migration, 2017 Migration Profile] (2019). Available at:

<https://kirs.gov.rs/media/uploads/Migracije/Publikacije/migracioni%20profil%202017.pdf>

¹⁸¹ Goran Penev, Jelena Predojević-Despić, Promene stanovništva Srbije u postjugoslovenskom periodu (1991-2017) [Changes in the population of Serbia in the post-Yugoslav period (1991-2017)] (2018). Available at:

<https://scindeks.ceon.rs/Article.aspx?artid=0085-63201903183P>

CHAPTER IV

An analysis of current MSCA mobility issues in Widening Countries

This analysis was conducted by the Slovenian Migration Institute within the Research Centre of the Slovenian Academy of Sciences and Arts (ZRC SAZU) which focuses on the current issues of mobility arising from the Marie Skłodowska-Curie Actions (MSCA) fellowship program. It includes an exploration and identification of different topics, ranging from a knowledge gap between Western and Widening countries, the role of the program in tackling these issues, how the countries in question tackle mobility as well as any reintegration and remigration policies.

On the outset, a questionnaire was sent out to participants from all Widening countries, containing 8 questions in total (including 2 sub-questions) so as to best assess any current policies and experiences from a first-hand source. These questions were a combination of policy-related, experience-related, and individual-related topics that would serve to analyse every separate country practice.

This process was done in the period of October to mid-November, whereby 13 participants from 11 different countries responded to the call. Out of these, 2 were video interviews and 11 were written answers exchanged via e-mail communication.

The research objective for this analysis focuses on several topics.

Firstly, learning about current measures in Widening countries that deal with the issue of migration and “brain drain”. Since it is an issue that many countries have difficulties understanding, analysing, and acting upon, the questionnaire aimed to discover how countries, both on a policy and organizational level, promote the return of highly educated professionals and MSCA fellows.

Secondly, understanding Widening countries in their view of the unbalanced mobility flow and how that affects their research organizations, universities and institutions on a national level. It was fundamental to gain a perspective on country attractiveness and how that translates to the overall participation in MSCA fellowships as well as perception of fellows that come from Widening countries.

Thirdly, how the participants in question would take action with regards to their national policies on migration. This includes any proposals for returning highly educated professionals/MSCA fellows, as well as changes in policy that would help in the process of reintegration for successful researchers.

Lastly, any success stories. For the overall prosperity of the MSCA as well as international mobility, it is vital to gain a personal perspective from fellows who have completed their journey to having successful fellowships. These examples serve as the finest instances of return migration, which is why their involvement in this analysis is crucial in not only promoting the advantages of the MSCA fellowships, but also understanding why and how some researchers will return to their home country.

QUESTION: TO WHICH EXTENT ARE YOU DETECTING THE ISSUE OF KNOWLEDGE GAP BETWEEN WIDENING AND THE REST OF THE WESTERN COUNTRIES?

Synthesis

The issue of a potential knowledge gap between the Western and widening countries highlighted the unbalanced mobility in the research field.

The first important finding is that most participants note that the lack of funding for projects or programs in widening countries directly steers researchers away from leaving their home countries. Suitable career opportunities, job progression, high-paying jobs, proper infrastructure and up-to-date research are all better available in Western countries as opposed to Widening countries. This in turn makes the Widening countries unable to compete with any conditions that would be offered to a potential fellow in Western countries.

The second important finding is that on a structural level, Widening countries lack any action plans and national strategies to better participate in the MSCA. In that regard, low involvement on a European and international level, lack of structural funds, low salaries, difficulties to initiate collaborations, little to no administrative or professional support contribute to (seemingly) lower quality projects.

One thing of note is that participants were firm in their opinions that there is not a lack of talent, rather than a lack of opportunity for researchers from Widening countries, which factors into the perception of a knowledge gap between them. The underdevelopment of talent both on a national and international level is key in contributing to what is deemed a 'lower quality' fellow. In reality, inadequate resources and the right set of circumstances is what contribute to some fellowships lagging behind others in terms of research and development.

Some saw a knowledge gap purely on a personal level. Mostly, an individual is what produces the work, and with it, the result will vary depending on their previous collaborations, networking, and overall track record.

On the other hand, some believed that there was no knowledge gap between Western and Widening countries whatsoever. In the same vein, some believe that research topics are so broad and varied that they cannot be compared regardless of the country of origin.

Policies tackling the issue of knowledge gap between Widening and Western countries:

There are a number of initiatives aimed at bridging the knowledge gap between Western and Widening countries and fostering both regional integration and convergence with the European Union.

On an EU level. Western Balkans Agenda on Innovation, Research, Education, Culture, Youth and Sport in October 2021 as a comprehensive, long-term cooperation strategy of the European Union and the Western Balkans which aims to contribute to the region's economic and societal development and cooperation.

Negative practices:

Croatia. As shown in the Croatian Resilience and Recovery Plan, the research landscape (in Croatia) is fragmented and scattered, hindering any complementary research and affecting the quality of any research activities. There are a small number of research organizations that can be coordinators in big research projects, a limited number of the potential supervisors to excellent incoming researchers, low visibility of research organisations, insufficient project management and administrative support for any project preparations and implementations as well insufficient research funding opportunities for incoming fellows.

Suggestions:

Slovenia. Potentially removing the term "Widening countries" altogether may contribute since it's problematic and creates stigma between the EU15 and EU13.

QUESTION: WHAT DO YOU THINK IS THE ROLE OF MSCA FELLOWSHIPS REGARDING THIS ISSUE?

Synthesis

MSCA fellowships were seen as a key tool in diminishing any knowledge gaps between Widening and Western countries. In that sense, there are some key findings from participants who saw fellowships as a positive tool on a national and international level.

Firstly, participants note that MSCA fellowships are key in international networking and collaboration. Based on research and previous experiences, fellows who have done research abroad are better equipped, knowledgeable, and skilled. More importantly, they use their contacts as a way to produce better projects and research – and ultimately achieve better research results.

Secondly, MSCA fellowships contribute in the field of career advancement. This is in part due to the transferable skills and better competency in the field, however their experience participating in MSCA fellowships is what ultimately leads to visibility and better opportunities at the workplace.

Thirdly, the mobility that MSCA fellowships offer is of great help for researchers coming from Widening countries. Not only does this help in narrowing the knowledge gap between countries since they get access to a better working environment, but it also helps fellows gain a wider perspective in their field of interest.

Lastly, the introduction of the Widening Fellowships and its increase in funding has statistically shown to produce successful individual fellowships, according to some participants. In that sense, the benefit is two-fold: foreign researchers are more likely to choose a widening country for a host country, and researchers from widening countries presumably going to finish their fellowships successfully.

An important thing to note is that some participants saw a lack of proper funding for many of these projects, especially for researchers from widening countries that statistically would have lower funds, and thereby, would be less likely to leave due to financial insecurity. Increasing this budget would benefit the international flow of researchers in general.

Interestingly, some saw the MSCA as a confirmation for the widening gap between Western and Widening countries. Since widening countries often lack the resources that would produce better quality research (or more creative research), potential fellows are often rejected for not being good enough, which prompts them to continue fellowships in their home country and in turn, not participate in any international research projects.

On the other hand, some believe that since the European Commission recognizes the problem of "ingoing" vs "outgoing" researchers, there should be a commitment for national institutions to better familiarize themselves with fellows that have gone abroad so as to keep better contact. This type of communication could not only benefit national institutions, but could open long-distance cooperating and potentially help them return to their home countries.

Suggestions:

Montenegro. Montenegrin participation in the MSCA should be improved in several areas to make better use of MSCA mechanisms.

Slovenia. The mechanism of the the MSCA should do better in addressing the issue of knowledge gaps between Widening and Western countries. In that regard, data should be transparent about ingoing and outgoing researchers, and funding should be increased so as to better distribute knowledge and expertise between countries.

Serbia. The goal of the Widening Fellowships should be a two-way street: the EC's instruments should have adequate national instruments that make working conditions in Widening countries better.

Positive practices:

Croatia.

1. International cooperation and network of contacts. EU studies (MORE 2 and 3 and MSCA interim evaluation) show that researchers who have stayed at a host organization for more than 3 months, after returning to their home country, more often cooperate with international partners and contacts they gained during

the mobility. Statistics show that in the last 10 years, a third of researchers funded through Individual Scholarships have achieved international mobility at least twice more during their careers. Also, as many as 80% of MSCA researchers achieved further collaboration with the contacts they gained during the mobility.

2. The SEA 3 study of the European Commission states that researchers who have been in the MSCA and ERC mobility programs (both bottom-up programs) show a greater tendency towards interdisciplinary research.

Montenegro. MSCA Fellowships should be accompanied by national policies to strengthen both. For example, the national scholarship program for Ph.D. research at universities in Montenegro, which has been implemented since 2018. It aims to strengthen human resources for research, innovation and competitiveness, increase the number of young researchers at universities in Montenegro, internationalization of research work, and the exchange of knowledge between the academic and business sectors.

QUESTION: ARE THERE ANY MECHANISMS/OFFICIAL POLICIES IN YOUR COUNTRY TO ATTRACT BACK A HIGHLY EDUCATED PROFESSIONALS/MSCA FELLOWS THAT YOU ARE AWARE OF? WHICH ONES?

Synthesis

Official policies and mechanisms for attracting highly educated professionals/MSCA fellows base themselves on a national level. The majority of answers pointed to the fact that most countries have mechanisms that would be attractive to researchers (Ph.D. programs, post-doctorate programs, scholarships for excellence, funded programs), however many of them do not directly target returning researchers, but rather, are open to anyone joining.

With that in mind, some participants noted that there have been a higher number of initiatives on a national level that aim to contribute diaspora researchers to research projects. These are typically only studies or surveys to assess the situation of researchers leaving their home countries, however some have also put this into legislation that encourages a better working environment for returning fellows through tax relief. Others note that their countries are in the middle of a higher education system reform process that will tackle the issue of brain drain and potential reintegration policies.

Likewise, some participants mentioned that their countries' respective ministries are in the process of developing programs that directly tackle the issue with brain drain, and subsequently, create projects for returning researchers.

On a lower level, some participants noted that research groups and centres have been established to help with attracting back highly educated professionals. These work with researchers that have continued their research abroad and provide support and cooperation. Moreover, most participants noted that both non-governmental and

governmental organizations primarily do this through financial means, as well as meetings, workshops, and bilateral and multilateral projects.

In essence, while official government-backed projects exist in most countries, they have not risen to an official state policy that deals with the issue of attracting back researchers and fellows into their home country. Still, the welcome news is that there are official state programs as well as national legislation in multiple countries that are being developed and aim to deal with researcher reintegration.

National mechanism examples:

The Czech Republic.

1. *International Mobility of Researchers, the Seal of Excellence* under MSCA under the Ministry of Education, Youth and Sports.
2. *Operational Programme John Amos Comenius.*
3. *ERC Starting, Consolidator or Advanced Grant.*
4. *ERC CZ programme.*

Montenegro. Mechanisms are result of the Analytical Study of Diaspora and Law on Incentives for Research and Innovation Development, a regional project of South East European International Institute for Sustainable Technologies.

Croatia.

- ◆ *Project of returning scientists to their homeland* by the Ministry of Science and Education.
- ◆ *Croatian Ministry of Science and Education.*
- ◆ *Scientific Centres of Excellence. Science and Technology Park (Step Ri in Rijeka), BioCentre, The Croatian Science Foundation,, EURAXESS Service Centre.*

Latvia.

1. Postdoctoral Latvian grants.
2. The Latvian Science Council.
3. Regional re-emigration coordinators who help any Latvian to return and reintegrate back in a country.

Malta. *Postdoctoral Fellowship Scheme by the Ministry of Equality, Research, and Innovation.*

Poland.

1. *The Polish Agency for Academic Exchange (NAWA)* – aims to attract the best talents to return to Poland.
2. *The Ulam Programme for MSCA Researchers.*

Serbia. *Program for returnees* by the Ministry of Education, Science and Technological Development.

Hungary.

1. *Forefront – Research Excellence Program* which aims to provide a 5-year grant to researchers.
2. *Momentum Programme* – renewal of research teams in Hungarian Academies.

QUESTION: WHAT MEASURES COULD YOUR COUNTRY TAKE TO ENCOURAGE THE RETURN OF HIGHLY EDUCATED PROFESSIONALS/MSCA FELLOWS THAT HAVE BEEN TRAINED ABROAD IN THEIR PROFESSIONAL/SCIENTIFIC FIELD?

Synthesis

The question of possible measures that a country can take to encourage the return of highly educated professionals/MSCA fellows who have already been trained abroad sparked a lot of suggestions.

The common denominator in every answer was to increase the funding of projects on an individual and organizational level. This is to ensure that researchers stay in the field of work, facilitate research without any burdens, and encourage more to join in the long run. Moreover, some viewed this as an opportunity to better integrate returning fellows since offering them a higher salary would translate to overall competitiveness. Some suggested these funds come from national organizations or governments and from MSCA, ERA, ERA Chairs. The other side of the coin of this answer also included increasing overall administrative support (financial or otherwise) which many participants saw was necessary.

One participant noted their country's newly established national scheme which directly targets returning fellows. In that respect, it aims to give researchers the full support (via travel, accommodation and expenses) and a supervisor to help them reintegrate.

Another suggestion was to establish peer-learning systems on a national level that could inform researchers about mobility issues, any human resources, legal or accounting services to potential returnees that would help with reintegration. An interesting proposal was to unburden researchers with the obligation to teach, which could potentially help them fully focus on their field of work.

Besides the aforementioned suggestions, the majority leaned on better financial support and better organization within institutions, access to information and resources that could aid the overall organization of their national programs and research projects.

Suggestions:

Institutions should be more open to reintegrating researchers who have obtained their Ph.D. or have worked abroad for a certain time and wish to return. There could also be a benefit from changing national policy and policy of public organizations (universities, institutes etc.) to be more welcoming. This includes:

- ◆ Developing and broadening the national Euraxess network,
- ◆ Higher salaries for researchers,
- ◆ Better support provided by administration (national, regional and local),
- ◆ Welcome centers in various organizations – training administration specialists better prepared for welcoming.

Croatia.

1. Rewarding staff that participates in the EU Framework Programs for Research and Innovation.
2. Removing the obligation for researchers to teach in their home countries.
3. Boosting administrative support by removing legal and financial burdens.
4. Establishing a peer-reviewing system with a network of scientific managers so better share any knowledge and experience.

Latvia.

1. There should be a support system (legal framework, financial, information on opportunities) for researchers that want to reintegrate in the research area.
2. Provide more funding for science and research.
3. On a university level, there could be networking activities between universities and researchers in the diaspora. Information days, collaborative seminars etc.

Serbia. Competitive salaries, the ability to join a research organization after spending time abroad working or studying, the ability to apply for projects with similar barriers like those on a national level.

Slovenia. Improving national policies so that researchers want to return to their home countries. Bettering the corporate and academic spirit through joint doctorates and joint research programs which could facilitate cooperation.

Policies tackling the issue:

Malta. A Postdoctoral Fellowship to Malta (PF2MT) scheme will be launched in 2022 to support eligible applicants in their MSCA PF proposal preparation. PF2MT will support travel and accommodation expenses for eligible researchers based abroad and who have identified a supervisor.

QUESTION: WHAT ARE THE KEY VARIABLES THAT CONTRIBUTE TO RESEARCHERS RETURNING TO THE COUNTRY OF ORIGIN?

Synthesis

When discussing what key variables contribute to researchers returning to their country of origin, the answers point to two categories.

The first are *personal* reasons. These typically include fellows' strong attachment to their homeland, homesickness, where fellows miss the familiarity of their own

countries. In essence, some participants noted that strong familial attachments or national identity are key as to why researchers tend to return home.

The second are *professional* reasons. These include the ability to use their knowledge and competencies after being trained abroad for the benefit of their origin country, being given attractive, better or more competitive position at a workplace (e.g. becoming team leaders), a better working environment, intersectoral mobility, international environment, stability in the workplace and a better recognition in their field of work. An interesting proposal was giving support in terms of tax concessions while procuring necessary material, equipment and resources for research work as well as good financial benefits.

QUESTION: HOW TO PROVIDE EQUAL OPPORTUNITIES FOR RESEARCHES IN THE COUNTRY OF ORIGIN, COMPARED TO ABROAD?

Synthesis

The question of equal opportunities is one that starkly highlights the difference between the Western and Widening countries. Every answer noted the issue with overall competitiveness and country attraction. Namely, how Widening countries have an inherent disadvantage when it comes to providing equal opportunities to hosting fellows.

Firstly, the working conditions between countries are not comparable. As such, every country involved in the EU Framework Programme for Research and Innovation, including the MSCA, must comply with the appropriate guidelines so as to successfully give an equal chance to any fellow that wishes to be hosted in a Widening or third country. Interestingly, some suggest that the EU should follow its own policy making with regards to the principles of equality and non-discrimination and commit equal development plans among its states so they can better compete on the research market.

Secondly, the most highlighted issue is the question of funds. In particular, some countries do not have the same financial means as others, and providing additional financial benefits would greatly improve the playing field. Moreover, some suggested that offering special grants for fellows that plan to return home could also play a factor in helping equalize opportunities for researchers who choose to go to any location, rather than those who are generally more sought-after.

Thirdly, because of the two abovementioned reasons, the procedures for recruiting researchers must be faster. The often-slow process of recruitment makes for lower quality fellowships and thus, a lower performance by certain fellows – which further widens the gap between Western and Widening countries.

Another important aspect is the lack of staff support for most Widening countries that are not as financially stable as Western countries. There is a severe lack of focus on staff, equipment, and facilities, which are crucial in a successful fellowship program. As

such, providing support through funds and increasing administrative capacities would help in bettering the fellowship programs and having access to more research projects.

In the same vein, some believe that more successful host countries should share and collaborate with countries that are not as attractive to fellows, since it can expand the number of researchers and also increase the chances of returning fellows if equitable conditions are provided to every host country.

While many suggestions directly showcase the issue of (un)equal opportunities between countries, a lot of answers conclude and suggest that 'horizon broadening' should be more than a blank vision. Rather, it should be a readied strategy that directly assesses, analyses and tackles the problem with inequality between institutions and work towards bettering the environment overall.

Policies tackling the issue:

Croatia. Zagreb Call for Action on Brain Circulation 2020, a result of the Croatian Presidency of the Council has been addressing important measures which need to be implemented in order to achieve a balanced brain circulation and ensure equal playing field. It focuses on improving the prosperity of researchers (both careers and social security), creating sustainable collaborative networks (with the aim of exchanging scientific knowledge and excellence), increasing inclusiveness and participation of all Member states, and strengthening complementarity and responsibility on national levels.

Suggestions:

Croatia.

1. Monitor the system of salaries in R&I and recommend measures at Member States' level that lead to equating salaries in R&I funding, as well as increasing overall funding and mobility incentives.
2. Recognition and inclusion of research careers in the European qualifications framework (EQF), promotion of inclusive and transparent career development linked to the tenure track regime in the academy, and standardization of research careers assessment.
3. Create easily accessible and up-to-date practical information on the essential services related to the individual and family needs.
4. Foster the administrative capacity and support for international research projects.

Malta. Providing financial benefits for MSCA IF/PF fellows returning to the home country, as well as for those applying for ERC grants with institutions from the home country.

QUESTION: ARE YOU AWARE OF ANY RESEARCH TO INVESTIGATE OR EVALUATE MEASURES/OFFICIAL POLICIES REGARDING RETURN OF HIGHLY EDUCATED PROFESSIONALS/MSCA FELLOWS?

Synthesis

When it comes to official policies and measures that evaluate or research the return of highly educated professionals and MSCA fellows, most countries have not produced or created any studies that directly tie into MSCA fellowships. Unfortunately, this is mostly because most countries do not have any official policies that deal with this matter. Moreover, most answers steered negative as little to no incentive on a national level could be found to promote the return of highly educated professionals.

However, some countries have developed programs (mostly through NGOs and select studies) that evaluate the current brain drain situation within a particular country, as well as issues of reintegration, employment and general statistics on diaspora researchers.

It must be noted that these are done on a case-by-case basis within a particular country, which is why approaches and policies differ. However, the answers suggest that most programs aim at identifying why fellows decide to leave the country in the first place, which barriers stop them from returning, and how to appropriately fix the working conditions to meet the needs of any researchers.

The majority of these are not funded by the country's respective governments. This assumes that most countries do not have a comprehensive strategy to tackle the problem of brain drain. In some countries, these analyses are done on self-published studies and individual surveys, indicating a lack of organization on an institutional level to begin tackling any obstacles or challenges regarding young researchers leaving their countries.

Even so, countries that directly deal with the issue of brain drain i.e., through a national governmental body, mostly do so through studies and no comprehensive planning afterward. Therefore, while there is a minor push to evaluate measures for the return of highly educated professionals, it also severely lacks detail, strategy, and execution.

Research and policies:

The Czech Republic. *The National Training Fund (NVF)* in cooperation with the Prague Innovation Institute (PII) within the Prague Smart Accelerator project whose objective is to map the mobility of Czech researchers, funding opportunities for reintegrating researchers and identify barriers against their return.

Montenegro. *The National Excellence Scholarship program* with two calls in 2015 and 2016 in the project Higher Education and Research for Innovation and Competitiveness (HERIC) framework. This program was aimed at building research capacities through awarding Master, PhD and Postdoctoral scholarships, and was developed following the good practices of MSCA. It included mandatory mobility and the obligation of beneficiaries to return to their home country for a period not shorter than the period of the scholarship awarded.

Croatia. Foreign researchers are included in the Project of returning Croatian scientists to their homeland. Also, national financial measures are being regularly updated according to the needs of our research community.

1. *EURAXESS Centre in Croatia* is which regularly follows the implementation of hosting of foreign researchers (including MSCA foreign, outgoing, and reintegrating researchers) and collecting mobility obstacles.
2. *The Croatian Recovery and Resilience Plan* which incorporates RRP measures into funding to better improve research conditions.

Latvia. A survey in 2017 titled "Attracting Diaspora scientists and promotion of cooperation."

Malta. A survey in relation to Maltese Ph.D. holders to track their career pathways by the Malta Council for Science and Technology.

Hungary. The National Programme for Brain Attraction and Retrieve.

QUESTION: DO YOU HAVE ANY GOOD EXAMPLES OF SUCCESS STORIES THAT PROMOTE RETURN MIGRATION AND REINTEGRATION PROCESSES OF MSCA FELLOWS AFTER THE END OF PROJECTS IN YOUR COUNTRIES?

Synthesis

The question of success stories that promote return migration and reintegration of MSCA fellows are unfortunately few and far in between. While most fellows have positive experiences in their fellowships, the general conclusion is that not many return from abroad. The reasons are closely tied to those noted in this survey's previous answers, specifically question four and question six.

Still, some standouts showcase how international experiences through the MSCA have helped them professionally advance in their own home countries. For example, there are a few MSCA fellows who received ERC grants. According to their feedback, the MSCA fellowships represented a very important international experience which help them become competitive ERC applicants. There are also former MSCA fellows, who are active in terms of research activities and the promotion of the MSCA, emphasizing the opportunities it can provide, both on a national and international level.

It's important to highlight that every success story warrants a high position in a research or educational facility in the home country. That points to the positive impact that a fellowship can have over a person's professional career in the long run. For example, the success stories mentioned include current associated professors, co-founders and chairs of research facilities, and high-ranking teaching positions.

Another thing of note is that fellows hosted from Widening countries performed better than fellows hosted from their own nationality and from third countries. Moreover, the number of fellows from Widening countries has increased 2,16 times between 2018-2021 compared to 2014-2018. While no concrete conclusions can be drawn, the general notion speaks to the overall professional betterment of an individual that successfully participated in a fellowship. Still, having financial and organizational support is crucial in the process of reintegration. Some examples show that there's an overall boost in competitiveness if fellows are able to gain access to additional grants or funds.

QUESTION: DO YOU HAVE ANY SUGGESTIONS ON HOW TO ENCOURAGE HIGHLY EDUCATED PROFESSIONALS/MSCA FELLOWS TO RETURN OR FOR THOSE WHO STAYED ABROAD TO COLLABORATE WITH THEIR HOME COUNTRY? IF YOU DO, PLEASE DIVIDE YOUR SUGGESTIONS TO THOSE ON NATIONAL AND EUROPEAN LEVEL.

Synthesis

On the question of highly educated professionals and MSCA fellows and their return to their home country, answers differ as much as they harmonize. While most suggestions imply that a broader national policy needs to be implemented within every country so as to keep researchers from permanently leaving their home country, there are some differing variable answers.

- ◆ On a **national** level, a majority believe that the answer and subsequent fixing of any core issues stem from the national policies within the countries themselves. This includes directly promoting or rewarding fellows by reintegrating them to the research community through funds or employment. Namely, the introduction of any reintegration programs that would help diaspora researchers keep connections with their home country and potentially have an incentive to return as well. It would also be an idea to have conferences/ collaborative networking with diaspora researchers to keep the connection and exchange ideas. Moreover, many answers indicated that a better working environment, a more connected pool of researchers i.e., building a solid knowledge base, and a general development of national research ecosystems across Europe is key in helping the ever-expanding problem of brain drain. It was emphasized that countries need to have a clear programme (and step-by-step plan) on attracting, informing, reintegrating, and keeping researchers from abroad. Each institution should also form a welcoming environment for incoming researchers.

With this in mind, there were also some distinct ideas.

The idea of different kinds of fellowships was mentioned throughout the interviews. One is to dedicate special post doctorate fellowships for PhD graduates in their home countries which would effectively grant any researcher a chance to return and graduate at home after they have completed their fellowships abroad. Another is to continually engage fellows with their alma mater universities by giving them opportunities to guest lecture, work as visiting professors, or even become permanent committee members for doctorate studies.

- ◆ On a **European** level, the general conclusion is that policymakers and organizations should aim towards monitoring and directly implementing any call to action, strategy, or development programs that want to contain the problem of brain drain. This comes in the form of developing the innovation and research sectors in every country so as to stimulate the return flow of human capital. Interestingly, a lot of answers suggest that additional funding for paid temporary leave for researchers, joint programs, bilateral projects could be helpful in keeping a stable connection that could prompt researchers to return to their home countries. The idea was also that there could be a separate budget at the European level, intended for MSCA fellows to go back to their countries of origin.

Some answers were diverging. Interestingly, some believe that the European Union has no interest in the potential return of fellowships to their own countries, rather, to further promote it. On the other hand, some believe that widening countries have a distinct disadvantage when it comes to returning fellows, which is why an added budget aimed exclusively at researchers coming from those countries would help in their return – similarly to ERA fellowships.

Suggestions:

The Czech Republic. Potentially making successful MSCA fellows "ambassadors" that promote participation in the MSCA on a broader scale.

Croatia. Monitoring programs that deal with the issue of remigration such as the Zagreb Call for Action on Brain Circulation, National Development Strategy of the Republic of Croatia until 2030, Recovery and Resilience Plan.

Serbia.

1. Encourage collaborations between diaspora through bilateral projects and bilateral funding.
2. Keep MSCA fellows engaged in their home countries by making them visiting professors, guest lecturers, committee members on joint doctorates.

Hungary. Marie Curie Actions under the FP7 PEOPLE programme helps researchers from Widening countries to return to their home countries, promoting similar projects would help.

Slovenia. Follow examples from other countries so that it can help innovate projects within the EU and the MSCA. These include China with the "Chinese researchers returning home" projects that are heavily funded and help tackle migration issues.

CHAPTER V

Conclusion

By its definition, science is an international activity. The exchange and circulation of knowledge – and thus scientists, researchers – are of vital importance for the survival and further development of science. With this in mind, the geographical, inter-sectoral and interdisciplinary mobility of researchers and other professionals is a core value of the new European Research Area (ERA). The goal of this report is to highlight unbalanced brain circulation. Unbalanced mobility flows and the reintegration of researchers still presents a major challenge for the EU and its member states.

When discussing unbalanced mobility flows, we have to keep in mind the incredible complexity of the situation – especially when taking policies into consideration. For maximum effect, any and all policies must be planned with consideration to the context they apply to.

For a better understanding of the situation, three different contexts will be highlighted. In this vein, understanding unbalanced mobility flows means knowing there are three important gaps, which can also be identified from statistical data.

The first one is on the level of all MSCA member states, the second on the level of Widening countries, while the third lies on a national level. All three gaps have already been addressed with certain policies and financial mechanisms in the past few years.

1. MSCA member states

The first gap relates to all the MSCA member states and in that vein, the difference between the is evident with regards to:

- A. The number of submitted proposals, including which receiving countries (or institutions) are deemed desired destinations.
- B. The number of funded proposals which are received by member states in total, counting both in-going and out-going mobility.

The aforementioned points appear in two groups of states: the so called “old member states” as well as the Widening countries. In that vein, the term itself can be deemed problematic from a discursive point since it introduces differing social relations which can be recognised as Balkanism or orientalism. Nonetheless, to bridge this gap, more than one solution is warranted.

When it comes to the number of submitted proposals, there are two things to take into consideration.

1. The quality of information on proposal submission opportunities.
2. The efforts to understand the importance of knowledge circulation and what it offers science as a whole.

The policies that need to be considered in this regard are those of raising political and public awareness of the importance of brain drain and how that can affect wider country policies. In this regard, as already noted in the report, several proposals were made for how improvements can be made on all levels, including individual, institutional, national as well as on the level of the European Union.

On the other hand, with relation to the in-going and out-going mobility as it pertains to proposals, it firstly and logically depends on the number of submissions. However, this is also pre-determined and dependant on the process of evaluation, which is what selects the candidates (MSCA fellows). Subsequently, this then determines the number of in-going and out-going fellows for individual countries. Finally, the total number of mobility depends on how attractive the receiving countries are. This is something that needs to be addressed through various measures that improve the overall quality of the submissions by creating living and working conditions that will attract researchers.

During the search for solutions to promote better balanced mobility, these differences have been addressed with several projects. These include:

- A pilot for the Widening Fellowship (launched in 2018),
- MSCA Seal of Excellence (SoE),
- Innovative Training Networks (ITN),
- Research and Innovation Staff Exchange (RISE),
- Co-funding of regional, national and international programmes (COFUND).

Statistical research of these programs and activities have shown some positive changes towards balancing out mobility. Nevertheless, key differences persist between the two groups, i.e. the “old member states” and Widening countries. Because of this, there needs to be a bigger emphasis and support for coordination between the two in the form of policies.

2. Widening countries

The second gap relates to the Widening countries. From the gathered research and conducted statistical data, the dynamics of mobility can help categorise the Widening countries into three separate groups:

- Countries with a relatively balanced dynamic between in-going and out-going mobility,

- Countries with a large percentage of out-going and a weaker in-going mobility, or, a lack of in-going mobility altogether,
- Countries that are not involved in any exchange (thus have no in-going or out-going mobility).

Even with the combined number of in-going and out-going mobility, each of these countries still lags behind the “old member states” of the MSCA.

3. National level

The third gap relates to individual countries. This is significant for all MSCA member states, since it constitutes the gap between in-going and out-going mobility overall.

Statistics show a large percentage disproportion between certain member states that have in-going and out-going mobility – for example those that have a very large in-going surplus. In cases where these trends are long-lasting, they are also connected with the brain drain process of receiving countries. On the other hand, those that have a surplus of out-going mobility experience similar long-lasting trends that lead to a brain drain from sending countries.

The concept of a “balanced brain circulation” often appears in the discourse of the MSCA as well as wider European Union mobility. However, it’s important to note that in order to have circulation, there also needs to be a return or re-emigration. When there is just an exit with no return, it is simply an issue of brain exchange. This is a process familiar across the world and has been addressed in multiple migration studies since the 1960s, when policies of brain gain were created in the attempt to recruit and import highly skilled individuals. The global market is one in which developing countries often find themselves unable to compete in on an economic and technological level, hence why it’s necessary to consider return mobility and reintegration on a wider scale. As such, there are several proposals on what European Union and sending countries can do to better promote this – including bettering return grants and connecting the with national mechanisms for long-term integration on the labour market.

While this is no easy feat, countries on a national level must establish conditions that help attract experts and researchers. This comes in the form of understanding how knowledge circulation works and how brain exchange can affect the conditions in which these policies are formed.

An alternative option is also possible through researchers and workers who have gone abroad. This is an often-underutilised potential solution to these problems. Nevertheless, this cooperation would have to be a long-term, strategic policy that is supported by academic organisations and more importantly, national policies.

Mobility exists from the same thread that people are being sent on a journey from. An important aspect is the intra-communication between the two, the macro

environment that builds that mobility as well as the micro individual that takes up the experience.

Programs such as the MSCA are designed to promote workflow and education. However, when observing mobility and monitoring the individuals themselves, brain drain comes into the equation. It's then that temporarily mobility turns into a more permanent experience for the many researchers that then never return to their country of origin for various reasons – including but not limited to a better working environment, higher wages, better opportunities for advancing in their careers. This then leads to the bigger problem which are disproportionate mobility flows, which sees highly educated individuals flock to more developed countries, which then negatively impacts the balance of migration overall.

This report was presented at the MSCA conference which took place on the 15th and 16th November 2021 in Ljubljana, Slovenia.

A great number of proposals were made to help attract these highly educated individuals back to their country of origin, which were aforementioned in the report above. Participants noted that additional training, education and promotion of education, improved infrastructure and working facilities were also key in creating a better and more welcoming environment.

When discussing mobility flows, it's important to be aware that behind every relocation there is a history of a person's desires for their future. By designing the appropriate policies to support an individual's wishes, there is a high chance of tipping the balance in favour of a net zero migration while still retaining the benefits of mobility.

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