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The Attraction of Intellectual Migration - Brain Drain or Exodus of Human Capital in Southeast Europe - Western Balkans and North Macedonian Transitional Conditions

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Abstract

This paper investigates the migration of intelligence representatives - "brain drain", which is a rare case passed in a constant phenomenon. The mechanism started for the transition to new markets strengthens, and fewer countries support autocracy. Liberalization of capital, resources and services, labour and intellectual property is driven by the globalization of the economy and affects all countries globally. Typically, this does not bypass labour markets. Labour makes an effort to analyze the changes in economic conditions, and thus in the area of the regulation of science through departure to work abroad, of highly qualified specialists to whom it brings significant benefits to foreign countries, especially the achievements of scientists who become the property of the host country. Analysis of the reasons for migration, socio-economic factors play a predominant role, but at certain times in different countries, political, national and religious factors come to the fore. During the wars (world and local), refugees and displaced persons become significant contingents of migrants. This paper is a task to seek scientific literature on this topic, to identify the main trends and characteristics of migration and as a second task was to look for variable features of migration flows through data collection. To describe such a complex multifactorial migration reality, a methodological approach is needed of a researcher who would define an object and research method based on the synthesis of knowledge achieved by many scientific disciplines.

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1. Introduction

Advanced modern today migration flows in the world are a desire of migrants for well-being and security, which are inextricably linked. The migration problem with the "brain drain" in the present has not yet lost its current importance. No one will dispute the fact that the Macedonian young educated staff continue to leave their homeland. Recently, more and more ordinary students, as well as scientists, want to leave North Macedonia. People of the future, people who in a few years will build not only their careers but also the life of the state. It is an alarming sign for the homeland.

The relevance of the chosen topic lies in the globality of the current processes for the Macedonian economy and the development of domestic science in general. After all, leaving to work by agreement, Macedonian specialists bring significant benefits to foreign countries, especially the achievements of our scientists become the property of their host country. The recipient countries receive ready-made scientists without investing in their education. The donor country, i.e. North Macedonia, only the costs of training highly qualified specialists, remains and is left without Macedonian science's developmental opportunities.

It refers to various methods and tricks for penetration abroad without a work visa and works permit for a migrant. Migration takes place not only in North Macedonia but also in many other countries. There is no precise regulation of the labour market; therefore, the "brain drain" is very dangerous for the country's economic development and has recently taken one of the leading positions in economic theory. In various economic literature, articles on "brain drain" and interviews with workers and scientists of different specialities, managers and directors of organizations appear pretty often.

2. Materials and Methods

The subject is the study of the ideas of the inhabitants of North Macedonia about the problem of "brain drain" and the possibility of getting a decent job in North Macedonia. The purposes of this work are as follows.

1. Good and detailed analysis of the internal content problem of "brain drain" and its content;
2. An attempt to investigate the migrant opportunities of qualified specialists from N. Macedonia
3. Suggesting possibilities to stop the brain drain.

Research methods - basic methods (analysis, opposing differences and commonalities, cause-effect processing and analogy). The method of classification - Give, exhibit systematic features of different approaches to migration or brain drain. When writing on the empirical part, prognosis, exposure, historical analysis, and situation analysis were used.

The methodological basis of the research.

In writing this work, various general and specific scientific research methods have been used for migration, the problems and preconditions of this phenomenon. The paper's basis is theoretical-methodological notions in the works of world intellectuals through systemic, structural-functional, analysis, generalizations, and comparisons.

The sociological look actualizes identification and characterization on territorial migration specifics, especially for the volume and migration to North Macedonia. T. Yudina "Sociology of Migration" emphasizes the role of sociology as an integrative science and expresses the need to create a holistic particular sociological theory of migration.

From an economic point of view: a process of mass migration of specialists, scientists and skilled workers who leave countries for economic reasons, and who cannot find an application for their abilities and return, and not to seek residence in the country. The main reason is the desire to significantly improve their material well-being (Libanova. 2019).

The degree of elaboration of the scientific problem. Migration processes and their impact on the social life of society were first considered in the work of W. Thomas and F. Znaniecki, "Polish Peasant in Europe", in which the authors understood the social life of individuals as a process of adaptation: "Behavior is an adaptation to the environment, and the nervous system .. is an adaptation in development" (Thomas, W. and Znaniecki, F. 1985). Thomas and Znaniecki were the first to analyze the consequences of migration processes and the adaptation of migrants, relying on qualitative methods.

The phenomenon of migration processes and their consequences is widely represented by R. Park (1998) who confirmed the hypothesis that the intensification of migration separates people from their native traditions and puts them in a marginal state (Park R., 1998). Approaches to the study of migration processes by E. Ravenstein and his 11 Migration Laws formed the basis of many other scientific approaches to the study of migration: geographical, explaining the reasons for migration by the influence of geographical factors (Becker, 1992), which later included social and economic factors (W. Clark, P. George, H. Jones); ecologically, taking into account the gradual migration (S.A. Stouffer, G.K. Zipf); behavioral (E. Lee) and systemic, which is now the main direction in the study of migration. G. Spencer identified 3 main aspects of the adjustment. T. Parsons proved that adjustment is one of the necessary conditions of the system, ensuring its material-energy interaction with the external environment. E. Durkheim split its adjustment into two levels: individual and general. P. Merton described it as an adjustment in conditions of social disorganization. Also, the adjustment is covered in the works of M. Webber, P. Sorokin, K. Popper, A. Maslow, P. Burdije, E. Giddens.

In modern times, especially during the Fourth Industrial Revolution, population migration increased. The intensification is due to the uneven development of industry, economy, agriculture and other spheres, as well as the growing political disunity. E. Giddens, modification of spatial social relations is carried out under the influence of these processes. According to E. Giddens, the changing of spatial social relations is carried out under the influence of migration processes as carrier factors of social change in different societies (E. Giddens, 2005).

Migration - like goods, capital, and even technology that goes in some direction across national borders - is subject to "coercion" and "attraction." Empirical evidence points to factors that model migration. Prospective migrants calculate the socio-economic and personal costs and benefits that influence their own decisions on the advisability of leaving and choosing a country. These migrants make changes to their place of residence and low-paid work for higher-paying jobs and move to those labor markets where job opportunities already exist or will emerge in the future.

Cost as the most important factor that really determines mobility is the geographical and cultural proximity. Geographical distances are associated with high transportation costs, so most low-skilled workers with budget constraints are sent to neighboring countries or stay in the same region. Cultural adaptation and relocation are expensive, so existing social and personal ties are of great importance in shaping migration flows. The national diaspora helps migrants find work, make new social connections and overcome legal barriers. 2020, the year the world began to face

a global problem: the coronavirus pandemic. At the same time, migrants, as an unprotected group of the population, found themselves in a dangerous situation, at risk of becoming marginalized and posing a threat to the security of society.

The practical significance of the work. In modern conditions, migration is becoming a real threat to nations and states. Many developed countries are seriously concerned about the problem and devote significant forces and resources to solving this problem. North Macedonia does not have a clear concept of migration policy, legislation with unclear contradictions, and law enforcement agencies are not very efficient. The research contribution is in the final balance from the empirical data according to the different criteria of significance. Sustainability defends provisions that are consistent with today's theories of domestic and foreign intellectuals about the subject of research.

Main results - the analysis of migration and brain drain that takes place show the interdependence and interrelationship of cause and effect. This determines the relevance of the analysis that takes place in the current phase of brain drain.

3. Study of Migration

Gallup (Gallup's second administration of its Migrant Acceptance Index. 2020) estimates that the number of migrants in the world could reach 400 million in the next few decades. The promised countries for most respondents around the world are New Zealand, as the most popular with a 231 per cent chance of getting a young and educated population, followed by Iceland with 208 % and the United Arab Emirates with 204%. Of continental European countries, Switzerland is first with 187 per cent, and the next most popular world destination is Australia with 179 %of the potential for population growth. Although there is widespread opinion in the domestic public that most of the world's population wants to move to the United States or Germany, according to Gallup respondents, the "profit" or "brain drain" for these countries is much lower than expected. The United States with a 46 % chance, followed by Germany with a 45% chance, then France and Austria with a 44 % chance of winning them all, are some of the countries whose results are in the middle of this survey. Before concluding that these countries are less attractive and desirable to migrants, it should be borne in mind that this index actually calculates the difference between a population that can immigrate and one that emigrates. The data, of course, show that these countries have less opportunity to "earn" during migration than, say, New Zealand, but the fact that, as is usual in more developed countries, they have a large outflow of the population also contributes.

Apart from these countries, only Sweden, the United Kingdom, Spain, Saudi Arabia, Denmark, the Netherlands, Belgium and Panama can be "profitable" from migration, to a much lesser extent. The situation is worse only in African countries and Syria and Iraq, from where war refugees are fleeing and rushing to other parts of the world, mostly in Europe, for several years every day. The worst brain drain index in the world of all the countries surveyed in Sierra Leone 78%, followed by Syria 44%, followed by Kosovo with 42%, and the survey did not cover only a few countries on the African continent (Gallup[2]).

[2] Gallup index - Presenting the results of the research, Gallup calculated the "index of net migration potential", i.e. the percentage of possible gain or loss for each country and its population, especially separating those who would like to emigrate from those who would like to immigrate to that country. Thus, we get what could be more simply called the "brain drain index" as well as the eventual inflow. A higher index with a + sign represents the possibility

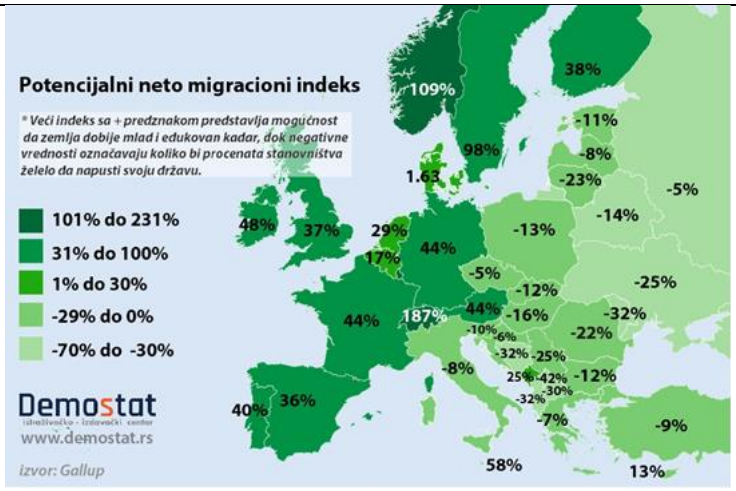


Figure 1
Potential net migration index

Receiving migrants

The reception of migrants is not uniform in the world, i.e. Southeast Europe (table 1). In Moldova, where the largest increase was recorded, the higher reception of migrants may be related to the influx of migrants from Turkey, Azerbaijan and Uzbekistan into the country. Most of these workers were enrolled in foreign companies that brought EU funds for various development projects.

Table 1.
Migrant Acceptance Index: Biggest Increases, 2016-2019

	2016	2019	Change
Moldova	3.80	5.58	1.78
Pakistan	2.47	4.21	1.74
Chile	5.17	6.28	1.11
Afghanistan	2.51	3.61	1.10
Kosovo	4.17	5.26	1.09
Azerbaijan	4.34	5.41	1.07
Myanmar	2.96	4.00	1.04
Niger	6.64	7.65	1.01
Lithuania	2.72	3.73	1.01
Mauritius	5.58	6.50	0.92
Poland	3.31	4.21	0.90
Tajikistan	4.39	5.10	0.71
Slovakia	1.83	2.52	0.69

Source: Gallup World Poll

Attitudes towards migrants have also improved significantly in Poland, which was among several EU countries that voted against the 2018 UN migration pact. Although the country index is not high, it has improved by just under one point in the last three years, rising from 3.31 to 4.21. At

that time, Poles became more open to seeing migrants living in their country as a good thing. (Increase from 28% to 42%) and their neighbors (26% vs. 38%), but not as members of their family (23% vs. 27%).

The Concept of Migration

Migration (Latin Migratio, from migro - go, move) - the movement of the population associated with a change of habitat. This definition is given in the Great Soviet Encyclopedia (Soviet Encyclopedia, 1985). A more extensive definition is given by the Demographic Encyclopedic Dictionary: "Population migration is the movement of people (migrants) across the borders of certain territories by changing their place of residence forever or for a longer or less ... UN statistics recognize as migrants those who live in a new place for more than 6 months" (Soviet Encyclopedia, 1985).

An international migrant is defined as "any person who changes his or her country of normal residence" (UN DESA, 1998). Actions are defined as "the total number of international migrants present in a given country at a given time" (UN SD, 2017: 9). Integration in the modern world sharply improves their migration processes, thanks to the political and socio-economic changes of the past decade. The current migration processes in the world and in North Macedonia are heterogeneous. Attempts have been made in the legal literature to classify migration according to certain generic characteristics. The most complete and objective classification, in my opinion, is given by Denisenko (2017). Based on the definition of the main directions of migration flows, they differentiate migration according to reasons (voluntary, forced and forced), by type (external and internal), according to time criteria (return and non-return). They also distinguish between individual, family (moving a group of relatives to restore or preserve family ties) and collective (organized relocation of a group of people) migration.

The system of voluntary migration distinguishes between economic and, above all, labor migration. The most severe consequences for the individual and for the society and for the state, according authors, are the forced migration. As well as voluntarily, it can have different characteristics. Forced migration can be external (asylum seekers, including refugees) and internal (internally displaced persons, forced migrants), return and irrevocable, legal and illegal, etc. At the moment, according to me important and necessary is to look for and analyze the causes which encourage the young intellectual generation to seek recognition in the scientific and public spheres not in their own homeland, but in more developed countries. When we understood the reasons, we are able to perceive the objectivity of the problem and present ways to solve it. There is little research on this problem that is relevant but not scientifically justified.

The academic staff of our universities know for sure that their knowledge in the West is much more valuable than in their homeland. A simple question - how to preserve the Macedonian intellectual resources. For example, in the United States, a Macedonian technical graduate is paid $ 3,500 per month. In North Macedonia, one cannot even dream of this. Another thing is that most of this money goes to pay for housing, health insurance, cars, etc. But these are not just salaries - however, they are in high demand. Abroad, our specialists are needed by universities, research centers and multinational companies. Therefore, no matter how scared the student or graduate student is of psychological or another discomfort abroad, he or she will still learn English at night, and during the day, in his/her free time from the study, he/she will work, collect documents and send them to foreign addresses. And in the end, he can achieve his goal. In specialized surveys, the main problem is sampling. This is due to the fact that migrants, especially in recent years of arrival, tend to make up a small proportion of the population and are unevenly settled throughout a country or region.

Often, not being able to achieve a sample that meets the requirements of statistics, researchers collect information on accessibility, that is, they interview those who were found without even having an idea of the size of the general population. Scientists have noticed that the published results are sometimes based on samples of unknown representativeness, making the conclusions of these studies questionable. In 2017, there were just over 250,000,000 migrants or more than 75% than in 1990 (140 million), and three times as many as in 1960. 2/3 of migrants are in North America and Europe. In Western Europe, it has grown from 18 to about 25% of the world's migrants, while in Eastern Europe it accounts for another 10% of the world's migrants. So, more than one in three migrants choose Europe as their migration destination (World Bank, 2018). In the Western Balkans, Bosnia and Herzegovina are the leader of why 1/Bosnian who migrated abroad, and 2 are in Bosnia, i.e. 1/3 of Bosnians born in Bosnia and Herzegovina became migrants (*figure 2*). Albania is in an almost identical reality.

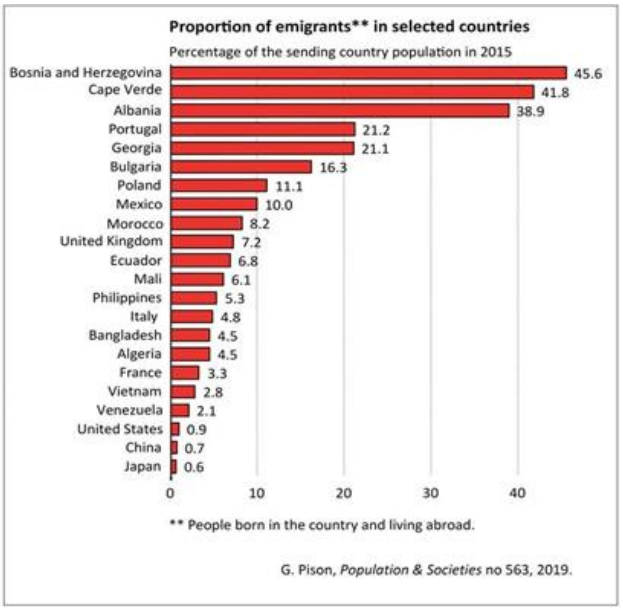


Figure 2.
Proportion of emigrants 2015
Source: (Gilles Pison, Population & Societiens no 563, 2019)

However, are these just economic problems? Empirical evidence suggests that countries undergoing a political transition from authoritarian rule to democracy are at greater risk of instability and internal conflict (Living Reviews in Democracy, 'Democratization and Conflict in Ethnically Divided Societies', 2009). Regarding the educational structure of migrants, the emigration of highly educated staff continued, which is confirmed by the brain drain indicator at the World Economic Forum, according to which Macedonia is in the group of ten countries with the highest intensity of 'brain drain'. In the past period, this trend in the Republic of Macedonia has reached worrying dimensions, with a continuous increase in the number of young people, high school and university students, as well as highly educated staff who were thinking or planning to go abroad", stressed the Minister of Labor and Social Policy Mila Carovska.

In reality, ten per cent of graduates plan to continue their studies abroad, and half of them dream of staying there permanently. In this regard, it is important to understand what motivates a

modern student/graduate when considering possible ways of employment abroad. Few researchers in our country are actualizing the problem of "brain drain", but still some steps are being taken in this direction. The article by Mitijakov S. B. (Mitijakov S. B., 2002) points out that one of the biggest obstacles to economic growth in some developing countries is the 'brain drain'. Unfortunately, in this situation, the "invisible hand" on the market can lead to an undesirable result for the country - the emigration of qualified specialists. The paper analyzes the problem at the model level. The author gets an "industry argument for the newborn" regarding the production of human capital. A standard method of protecting the national "industry" is an eviction ban; in this situation, it cannot be used in a state governed by the rule of law.

However, researchers have managed to construct more subtle ways to overcome the problem. "Credit history" is taken into account: because education is cost-related, it makes sense not to give it for free, but to provide loans to get it, moreover, these loans are forgiven if a person decides to stay in their ground. The question of the possibility of the existence of elite educational institutions is also considered. The author was able to show that under certain conditions they can be transformed from institutions that contribute to "brain drain" into tools to overcome this problem. Reality de facto, the number of qualified scientists working in their specialty is decreasing, and young people do not want to go to science, to put it mildly. What about the "brain drain" in the west? Judging by the lack of foreign scientists for the vacancies of professors and researchers, it can be assumed that they do not have "external" leaks (*simplified model of the "West").* But the problem of "internal" brain drain is very acute and topical for foreign science. Anderson (2018) himself, a Nobel laureate in physics and a professor at Princeton University, has devoted a separate article to this issue (F. Anderson, 2018), Anderson quotes a letter from one of his former students (already PhD and twice postdoctoral) to a large job-seeking consulting firm: “There are several reasons why I want to leave university, not the least of which is the desire to work in an environment that rewards those who know how to take risks. I have previously dealt with real-world problems for which there are no theoretical models for solving the degree of innovator while accepting the facts as they are".

"This young man was hired for a new job," written by F. Anderson, Moreover, he stated *"and now he earns the same as I do after 50 years of studying physics. We are experiencing a serious brain drain from physics, and above all from condensed substances."* Anderson thinks the obvious simple answers to the questions posed in his student's letter are incorrect. Maybe the least capable of science are leaving? "No," F. believes. Anderson, "just the opposite." More often than not, the best leave and this opinion are shared by other leaders. But many who remain have little to do with creativity. "Should we blame Wall Street for seducing the best of science at a fantastic rate?"

If we follow the thoughts of M. Weber, the state as a social institution is characterized not only by the right to legitimate violence, by the obligation to protect its subjects and force them to obey the laws, but also by caring for the future development of society (and, therefore, for itself). In this regard, the state of science acts as an important indicator by which one can judge the strength of the state, the willingness of its rulers to strengthen the social foundations of the state structure. Exactly this aspect of the problem is underlined in L. Rokotov "Brain drain - well forgotten star" ("Nova Gazeta", No. 34, 2001).

Motivation

Real practice emphasizes certain objective and subjective factors that affect the migratory state of mind of latent migrants. First of all, these are the two main factors: chasing out and causing attention, i.e. motivating to leave or forced movement. Migratory motives for latent migration are from economic, social, political factors and are related to the mental desire of the individual (or group of people) for better his/their (family) social status. The basis for motivational action, and

thus effect on migrant mood are: economic, political, social and natural (related to the state of the environment). In turn, each of the named blocks has its own internal excitation forces, which are shown in the table (see: *table 2).*

Table 2.
Motivating forces for migration

Economic	individual or group/family possible solutions; approach to resources; state and international labor policy and economic progress
Political	War and expression of dissatisfaction; disregard for human rights; national reform; state policy.
Social	Family relationship; zone migration; Possible educational solution; culturally disseminated knowledge of other areas; a racial-ethnic relations; religion.
Natural	Natural unforeseen parts; environmental disasters and catastrophes; urbanization; military destruction.

Source: (Own sight)

Developmental migrants flows are interdependent for the reasons already stated above which relevantly points out that there is no template migration. "Economic migrants" i.e. individuals who left the permanent place of residence in order to earn a better living has a specificity with political instability, i.e. with „southern" minimum living standards. UN (UN DESA, 2017) emphasizes the USA, Germany and Saudi Arabia and Russia as migrant destinations. USA with 49,800,000, Germany and Saudi Arabia with 12,200,000, and Russia with 11,700,000 migrants (The International Migration Report, 2017 -Highlights).

In 2020, there were approximately 281 million international migrants worldwide and 64 per cent of them resided in G20 countries (The G20 and migration. 2020), see *Figure* 3.

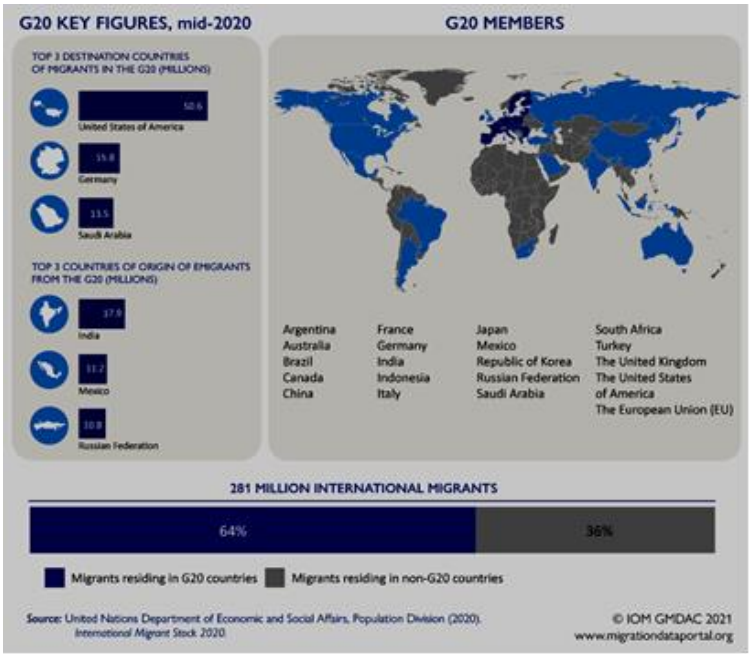


Figure 3.
The G20 and migration

What Brain Drain is

Brain drain is defined as the migration of skilled human resources in search of a better standard of living and quality of life, attractive wages, worldly education, career advancement opportunities, access to advanced technology and more stable political conditions in various parts of the world (Sunita Dodani and Ronald E. Laporte, 2005). I can claim that highly qualified and talented professionals are in the field of investigation on adequate opportunities to express their acquired skills and knowledge. For them, working is earnings and simulation for higher levels of management. But in reality, developing countries are inadequately fair to these brains. What causes negativity in these specialists, and thus to migrate? It has been proven that the brain that migrated to a selected elsewhere could produce 4.5 times more publications and 10 times more patents than its home counterparts, and the main causes of brain drain are non-financing, technical support and non-infrastructure in home countries, without let us not forget the political and common influence and pressure.

The world labor market is formed by the import and export of the workforce. Most states attract labor for your own benefit or send migrant workers abroad. International or external migration of workforce means changing the location of workforce abroad, in other countries in order to establish employment relations with that country. Emigration of labor is the departure of the population, namely workforce from one country to another, where higher earnings are possible and long-term residence or arrival at the workforce in one country from another. There are types of migration to the workforce: seasonal migration, pendulum, irreversible, illegal, temporary permanent and so-called "brain drain".

Drainage of the brain is a movement of educational staff. In the real moment if professor, researcher, scientist or financial staff, etc. moved from the home country and moved on the basis of proper work, career, dignified salaries and life, we are talking about brain drain. Brain drain is relevant in countries with unemployment and other national problems.

Brain drain has a long history. For centuries, talents were often sent to other countries. Had many reasons for this - a higher standard of living, religious freedom, etc. In many cases, brain drain lead to extremely noticeable and long-term consequences. For example, the persecution of the Huguenots in France in the 1500s led to this and the last to be moved in neighboring the Netherlands, England and Switzerland. Because in France, The Huguenots specialized production of high-quality fabrics, hats and watches, metalworking and other industries, they were able to quickly create new industries in their new homeland - in France, these industries were falling in decay for a century and a half.

The term "brain drain" (French *Exode des cerveaux*) was invented by British journalists in the early 1960s and the phenomenon itself, i.e the migration of scientists and highly qualified specialists appeared at least 300 years earlier. Brain drain or intellectual migration is a major global problem. This problem mainly affects countries with less stable economies and leads to the desire to go elsewhere, in another country, where work is paid higher, where mental work is more valued. Brain drain by definition is the "Loss of highly qualified or educated people from one country, region, institution or sector to work in another, based on better pay, improved living conditions, expanded opportunities, among others" (ERIC Thesaurus). Perception of man is that brain drain is your own choice which mandatory there should be reciprocity and feeling of respect, but the rest sees differently way of reality.

Kaukab S. (Kaukab, S., 2005), indicates deprivation of the power to act at territorial levels of the brain and internationally. De Arenas et al. (2001), the educated staff due to the lack of institutional capacity of the state for absorption and use of advanced intellectual capital is leaving. Docquier, F. (Docquier, F. & others 2007), brain drain means a lack of intellectual capital, and thus political

instability and the degree of fractionation of the country of origin. Torbat, A.E. (Torbat, 2002), brain drain is the migration of citizens with higher education, but mainly to doctors and professors.

If we take into account the definitions for "brain drain", can be found with a certain variety of its interpretation. Initially, the term "brain drain" was introduced in circulation in the report of the British Royal Society (British Royal Society, 1962) and initially behaved on the migration of English scientists and engineers and technicians to the United States. Later, this term was widely used in the study of social and psychological determinants on eviction of highly qualified specialists from the so-called developing and post-socialist countries in the developed countries of the world. From a social point of view, this term can be interpreted as follows: one of the forms of migratory behavior associated with the decision of people with mental labor to move from the old to the new socio-cultural environment. "Brain drain" is due to the dissatisfaction with the basic (value) needs of the individual for creative self-expression and the expectations from his satisfaction in the new socio-cultural environment. From an economic point of view: a process of mass emigration, in which specialists, scientists and skilled workers leave a country or region for economic reasons, who cannot find an application for their abilities and return, and not seek refuge in the country of residence. The main reason is the desire to significantly improve their material well-being. This term can also be viewed from a political, religious point of view, but its essence remains the same: migration in order to improve socio-economic living conditions. The general notion of the concept: "Brain drain" is one of the forms of migratory behavior. Departure, emigration, going abroad for permanent work of highly qualified specialists who do not find a use for their abilities or do not receive the expected return that is not required in the country of residence.

Western Balkan countries. According to sources from the WFD (WFD, 2019), North Macedonia is in an unfavorable situation in relation to other Western Balkan countries in terms of GDP. North Macedonia with BDP per capita is with 5,174 USD, and Serbia and Montenegro with 5,800 and 7,076 USD. When we analyze these sources, we learn about the problem of migration (youth) - leaving behind an unworthy future life in the economic field and the box of employment policy, ie unemployment where North Macedonia is 40.8 per cent, i.e. 12.3 times larger than its neighboring country Serbia (Table 3). Based on the risk of poverty and social exclusion, Northern Macedonia has a worryingly low rate in the region, while Croatia and Flungari are half better than North Macedonia, at about 26 per cent. The average net income is the lowest in the ranking, in North Macedonia and Bulgaria, with 349 and 339 euros. The highest average net income in Croatia is 720 euros.

Table 3.
Selected economic indicators for countries in Southeast Europe - Western Balkan

Country	GDP per capita $	Unemployment rate of young people as %	Average net earnings €	Poverty risk and social exclusion rate as %
Serbia	5,800	3.30	379	39.0
Bulgaria	7,530	12.20	339	40.2
Croatia	12,424	25.40	720	27.8
North Macedonia	5,174	40.80	349	41.4
Romania	9,768	13.10	385	37.3
Hungary	13,158	9.50	542	26.7
Montenegro	7,076	28.20	479	n.d.

Source: (WFD 2019)

Radio Free Europe (Radio Slobodna Evropa, 2019), citizens of the countries of Southeast Europe/Western Balkans were surveyed with a question whether they would like to leave their country or stay in it (*table 4*), where 73% of the citizens of North Macedonia have a desire to leave the country, Serbia with 75%, Croatia and Romania with 34%, i.e. 30%. This is an indication that North Macedonia is face to face with emigration, as well as Southeast Europe or the Western Balkans. The relevance is that North Macedonia has an extremely specific and pronounced problem that Macedonian educated people do not see a way of life at the time it occurs in her.

Table 4
People who wish to emigrate from Southeast European countries

Country	Wants to leave as %	Wants to stay as %
Serbia	75.00	25.00
North Macedonia	73.00	27.00
Albania	66.00	34.00
Slovenia	65.00	35.00
Montenegro	63.00	37.00
Bosnia & Herzegovina	62.00	38.00
Kosovo	58.00	42.00
Bulgaria	34.00	66.00
Croatia	34.00	66.00
Romania	30.00	70.00

Source: Radio Slobodna Evropa (2019).

Horvath (Horvat, 2004), advocates the topic of brain drain through that educated people are a scarce resource and usually less developed countries are those who suffer more when this profile of people decides to leave. Horvath (2004) - the importance of qualified people, for the economic development of developing countries is necessary, to have the realization, governance and control of advanced processes and to implement reforms in transition. The "sending countries" of highly qualified people should have an active process of obtaining brains so that they have no pretensions to keep them, but by actualizing future policies for the state development of the country (Horvat, 2004). For higher economic growth and development of every government of the state, they need highly educated people with managerial and technological skills (Tung and Lazarova, 2006). Bosnia and Herzegovina (BiH), Croatia, Northern Macedonia and Serbia are among the top-ranked countries with the largest brain drain in the world, according to a global competitiveness report released by the World Economic Forum. On a scale of 1 to 7 (1 = all talented people leave the country; 7 = all talented people staying in the country), BiH scored 1.76, followed by Croatia (1.88), Northern Macedonia (2.13) and Serbia (2.31). According to the report, the country most affected by the brain drain is Haiti (1.70).

Up to 25% of the educated and younger population can leave Serbia in the coming years, and even with a possible influx of migrants who want to settle in Serbia, it puts our country, as well as the entire Balkan region, at the very top of the list of endangered countries. Danger of mass "brain drain". Such data, or "brain drain indices," were provided by an extensive and comprehensive survey conducted by think tank Gallup of the United States, based on interviews with nearly half a

million adults in 152 countries worldwide, conducted between 2015 and 2017. Gallup research shows that at the moment, almost half of the population between the ages of 15 and 29, or 46% of them, want to leave Serbia in order to start living in another country, with no idea to return. In addition, 27 percent of the educated population, ie highly educated staff, expressed readiness to leave Serbia permanently.

The data for the population of Kosovo are separated and much worse - the total population loss in Kosovo is estimated at as much as 42%, which includes 43% of students and 48% of young people wishing to emigrate to some of the more developed countries. Such a bad result - with a population "loss" index of 42% - is by far the worst in the Balkans and one of the worst in the world. Research shows that the Balkans, except for some countries affected by war and poverty and unstable socio-political situations, is a territory from which the population migrates en masse, while the countries themselves do not take or implement measures to prevent "brain drain" or allow "influx" of citizens from other countries. Of the surrounding countries, the worst index of "brain drain" is Kosovo with 42%, followed by Bosnia and Herzegovina and Albania with the same result of 32% of the population that can leave the country, followed by North Macedonia with 30%. Serbia is in a slightly better category below 30%, if we can divide them that way, but still not enough to be able to say that the trend of young and educated people leaving is controlled and that there is progress. According to the results, we are significantly behind neighboring Croatia, which has a brain drain index of only 6%, which shows that this country either manages to retain its population, or manages to attract new immigrants, even though many of them have emigrated.

Table 5.
Gallup research “brain drain indices"

	PNMI	"brain drain"	young
Kosovo	-42%	-43%%	-48%
Bosnia and Herzegovina	-32%	-40%	-57%
Albania	-32%	-50%	-25%
N. Macedonia	-30%	-39%	-52%
Serbia	-25%	-27%	-46%
Croatia	-6%	-14	-15%
Slovenia	-10%	/	-7%
Montenegro	25%	61%	106%

Source**:** (Gallup)

Brain Waste

"Brain waste" (Mattoo, et al., 2008) educated and highly skilled migrants do not end up in their professional field after migration, "youth-transmitted disease" (Gibson and McKenzie, 2011, p. 107). Another definition of brain drain "as an obviously loaded phrase, which includes implicit definitions of economic and social well-being and implicit claims to facts". The brain drain has a negative effect on countries with a migration rate of highly qualified people of more than 20 per cent, and the percentage of higher education staff is over 5 per cent (Beine, Docquier & Rapoport, 2008). Docquier (2014) highlights the consequences of the negative effects of brain drain: 1. Highly qualified immigrants do not pay taxes in their home country, which affects the country's budget; 2. In some countries, education is subsidized by the government, and some of the highly qualified individuals emigrate without being able to repay the debt; 3. causing labor shortages in several key activities, where there is a shortage of engineers, doctors and nurses, undermining the possibility of

adoption of new technologies in the country or dealing with a health crisis, and 4.Brain drain can create a technological gap among developed countries and those in development because highly qualified persons usually concentrated in the most advanced economies, and that helps them of developed countries in their technological progress. The material losses of the state are also with the negative deprivation of the creative capital - innovators and implementers of new ideas, as well as increasing problems in the health and insurance funds due to the emigration of young people, who were supposed to contribute as potential employees in the future. (WFD, 2019).

Ire dale (Iredale 1999) mentions two categories of people who migrate: the first category includes all those highly qualified individuals seeking the highest-paid or most lucrative employment, thus trying to increase the return on investment in their education/training while in the second category puts all other highly skilled individuals who want to take their skills where they think they do best to be more productive and enjoy better working conditions. Horvath (Horvat 2004) believes that in addition to the economic reason, there are other motives why highly qualified people choose to emigrate, such as political, ethnic and religious persecution, mismanagement, war, etc. Apart from all the above reasons, expresses the idea that for the developing countries of the continent of Europe, EU enlargement is also one of the main reasons why highly qualified people tend to emigrate and move to developed European countries.

The Republic of North Macedonia is facing total population in 1960 = 1.3 million, in 2005 = two million and in 2020 = 2.1 million (United Nations, https://www.worldometers.info/world-population/macedonia-population/). The United Nations Report (Worldometers) predicts that for the world population by 2100, the population in North Macedonia will decrease after 2020, and in twenty years, that will be 1.9 million.

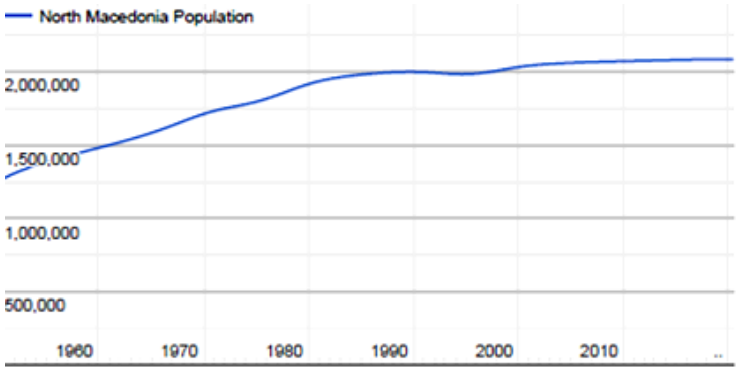


Figure 4.
North Macedonia Population (1950 - 2020)
Source: Worldometer.

However, based on the report of the United Nations (2013), which gives a prediction about the world population until the year 2100, the population in North Macedonia will start decreasing after 2020, and after twenty years, it will be 1.9 million.

Table 6.
Republic of North Macedonia Population Forecast

Year	Population	Yearly % Change	Yearly Change	Migrants (net)	Median Age	Fertility Rate	Density (P/Km^2)	Urban Pop %	Urban Population	Country's Share of	World Population	North Macedonia Global

										World Pop		Rank
2020	2,083,374	0.04 %	809	-1,000	39.1	1.50	83	58.6 %	1,221,133	0.03 %	7,794,798,739	148
2025	2,073,805	-0.09 %	-1,914	-1,000	41.0	1.50	82	60.7 %	1,258,951	0.03 %	8,184,437,460	149
2030	2,050,747	-0.22 %	-4,612	-1,000	42.9	1.50	81	63.5 %	1,302,884	0.02 %	8,548,487,400	150
2035	2,014,291	-0.36 %	-7,291	-1,000	44.7	1.50	80	66.6 %	1,341,550	0.02 %	8,887,524,213	152
2040	1,966,965	-0.47 %	-9,465	-1,000	46.3	1.50	78	69.6 %	1,369,904	0.02 %	9,198,847,240	152
2045	1,913,371	-0.55 %	-10,719	-1,000	47.5	1.50	76	72.7 %	1,390,498	0.02 %	9,481,803,274	152
2050	1,856,775	-0.60 %	-11,319		48.3	1.50	74	75.7 %	1,405,212	0.02 %	9,735,033,990	153

Source**:** (www.Worldometers.info)

4. Why North Macedonia is shrinking as "brain drain"

OECD (2019b), 2012-2016, confirms that 113,975 individuals left North Macedonia in OECD countries (Switzerland, Austria, Germany, and the United States), which is 5.5% of the total population that left the country for 5 years, which is a very significant percentage for a country like North Macedonia with a total population of 2.07 million (United Nations, 2013). North Macedonia has a diaspora in Italy, Slovenia and Croatia (no updated numerical data). Bilateral migrants, from the World Bank in 2013, are 626,412 migrants going abroad, or 30.2% (Economist, 2017). The State Statistical Office of North Macedonia emphasizes that the net migration in 2017 is 2,202 (State Statistical Office, 2018). The emigration database must be better aligned with data provided by recipient countries or international organizations, as emigration statistics provided by countries of origin do not always provide a realistic figure, especially in developing countries (Docquier, Lohest & Marfouk, 2007).

Zulfiu (2018) points out that the number of individuals who left the country in 2017 alone is 534.7 thousand or approximately 26%, while the State Statistical Office of the Republic of North Macedonia claims that in 2005-2014 only 9170 people emigrated (Zulfiu, 2018). This is irrelevant from the State Statistical Office because it uses only the list of individuals who have officially left the country and are not in a real situation, present data on illegal migration, and reference data for those who leave using their Bulgarian passports. Labor migration to North Macedonia is not new, so according to Zulfiu (2018), it began in the 1960s when the former Yugoslavia opened its borders and encouraged people to work in Western Europe. De facto most individuals leaving North Macedonia are young, with a high school diploma (Dietz, 2010). The liberalization of the EU visa regime to North Macedonia facilitates the access of Macedonians to EU countries (Joveski, 2012, p. 66). Specific and precise data on the number of individuals leaving the country each year after visa liberalization is a difficult mission, as some use it as an opportunity to leave as a tourist and then find work and emigrate.

From November 2015, citizens of the Western Balkan countries, including North Macedonia, can enter and apply for a work visa in Germany, only if they have a binding job offer (Arapi & Kljajic, 2019). The relevant problem, because they leave the country, not as visitors, but find work, legally or illegally and have no desire to return. The citizens of North Macedonia can have remittances for living abroad, the high level of emigration will have negative consequences on economic growth, public finances and population growth ("Economist" newspaper, 2017). The average monthly net salary in North Macedonia in January 2019 was 24,517 Macedonian denars or converted into euros, approximately 398 euros (State Statistical Office, 2019c). The perception of the political situation, and thus the level of corruption, quality and dignified life, young people with higher education do not see a future at all and are determined to leave the country in search of more opportunities. This migration is known as "brain drain. For Stamenkovic (Stamenkovic, 2015) emigration to Northern Macedonia is in two main groups. The first, continuous emigration of the whole family, which is now followed by a brain drain; 2) temporary economic emigration. In addition to these two groups, Stamenkovic (2015) mentions illegal immigration and the group of people seeking asylum. The number of Macedonian individuals seeking asylum and protection in EU member states has increased by more than 600 per cent since visa liberalization in 2010 (Stamenkovic, 2015). Brain drain is one of the main problems and challenges for the creativity of politics in North Macedonia, so is related to the loss of investment in human capital and creative work, social policy and economic situation of the country. North Macedonia from 1993 to 2002, 12,000 to 15,000 young educated, highly qualified people emigrated (Dinkovski & Markovska-Simoska, 2018, p. 174).

According to the World Bank, North Macedonia from 1997-2005 or about 29 per cent of highly educated Macedonians left the country (Zulfiu, 2018). Figure 5 shows that North Macedonia is on 133 out of 142 places in the world in the brain drain in 2011. In 2005, North Macedonia had the highest migration rate in the Western Balkans, with individuals with higher education leaving, at around 14%, Albania at 5%, and the world average just over 5%. After ten years, it is even worse, i.e it doubled and reached almost 30%, while Albania and Serbia remained at approximately 5%, and the world average was just over five per cent. Educated emigrants from North Macedonia are IT specialists, teachers, medical professionals and engineers, which is a reduction of more than 70% in the number of researchers and scientists for the period 1995 and 2000 (Zulfiu, 2018).

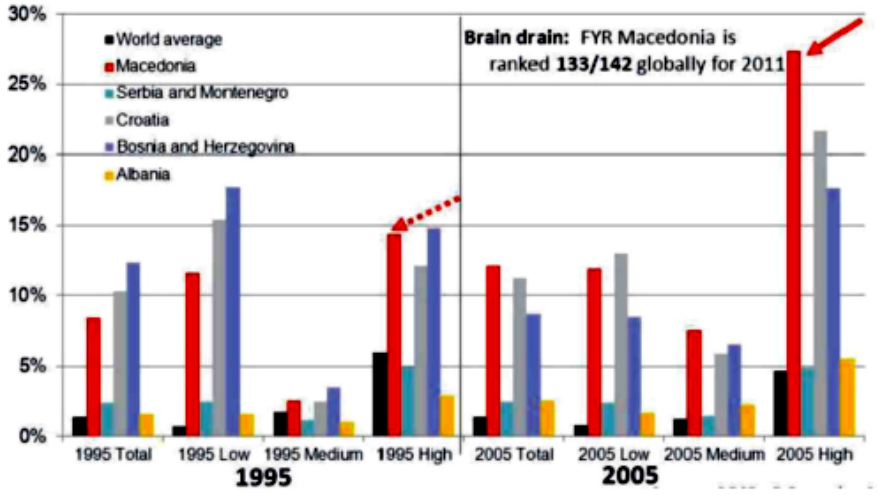


Figure 5.
Emigration rate by education level
Source: (Zulfiu 2018)

The World Bank for North Macedonian Migration emphasizes that it is on the rise, but unfortunately without evidence of return migration (Zulfiu, 2018). In Skopje, in 2004, an office of the International Organization for Migration (IOM) was opened to implement Assisted Voluntary Return Programs through which emigrants who want to return home will have support for reintegration into society, support for health care, education, and business establishment. , housing (IOM Skopje, 2018).
Wahba (Wahba, 2015) in "Who benefits from return migration in developing countries"? Lists the pros and cons of return migration:

1. *Pros:* return migration can be beneficial for the home economy; returned migrants bring new ideas that can improve the home economic and political outcome; migrants while acquiring abroad acquire new skills and thus will have an advantage over non-migrants in the country; migrants save money while abroad, which increases their chances of starting a business and becoming self-employed;
2. *Cons:* bureaucracy can discourage returning migrants from investing in their home country; the skills needed abroad are not always necessary for the domestic market; home country institutions and people may not be very open to ideas and practices in the host country.

Janeska, Mojsovska, and Lozanoska (2016) distinguished the consequences and implications of brain drain in Northern Macedonia: 1. The average level of human capital will decrease with all the negative effects on innovation; 2. Unfavorable implications for the state development in the long run; 3. Very weak effects of feedback from the return of young educated individuals on remittances and technology transfers; 4. Incentive for home education; 5. Significant reduction of the reproductive base of the population. For Wahba (2015) returning migrants do not have the opportunity to reintegrate into their home country and present new ideas and practices, but if they are not in line with the demands of the domestic market, then instead of gaining brain it becomes brain waste. If remittances or savings from abroad do not stimulate the economic and social development of the home country, then their capital is not used to the greatest advantage (Zulfiu, 2018).

Unemployment - is another macroeconomic indicator that is used very often when analyzing the economic performance of a country. It shows the percentage of people that currently do not have a job but are part of the active population (people that are able to work and seek a job). The "natural" unemployment rate is not measured directly but is inferred from other information, and usually, a "natural" unemployment rate is considered between 4.3% to 5 % (Weidner & Williams, 2011). As is shown in Table 7 North Macedonia's unemployment rate is extremely above the "natural" rate, four or sometimes it was even five times higher. In the period 2009 - 2019, the highest rate was in 2009, reaching 32.17 per cent, and the lowest one in 2018 by 17.8 percent (World Bank, 2019g). In the first quarter of 2019, the unemployment rate was 17.8 percent (State Statistical Office, 2019b) and the job vacancy rate was 1.77 per cent, or 9.100 free job positions (State Statistical Office, 2019d). In practice, it is very hard to find a job especially in public office, unless you have connections with the ruling political officials, at the national or local level. Besides the connections, bribery is also a phenomenon when it comes to public office vacancies. Usually, people pay an amount of € 1.500 to € 2.000 for a job position in public office. The private sector, on the other hand, does not offer too much, unless you have a degree in fields that have a low number of students. There are no official data for year 2012 and 2014.

Table 7.
Selected macroeconomic indicators (2009-2020)

Selected macroeconomic indicators of Republic of North Macedonia (2009- 2020)												
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
GDP growth %	9.40	9.43	10.40	9.70	10.80	11.31	10.11	10.60	11.24	n.d.	n.d	n.d
GDP annual growth %	-0.30	3.33	2.34	-0.4	2.90	3.60	3.82	2.81	0.24	n.d.	n.d	n.d
GDP growth per capita %	-0.41	3.21	2.20	-0.5	2.82	3.5	3.74	2.75	0.13	n.d.	n.d	n.d
Government debt to GDP %	23.63	24.11	27.73	33.7	34.05	38.17	38.10	39.9	39.52	40.7	n.d	n.d
FDI in million	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	202.81	316.90	180.01	n.d	n.d	n.d
Gross external debt/GDP %	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	69.41	74.20	73.21	76.5	n.d	n.d

Table continues

Table 8.
Selected macroeconomic indicators (2009-2020) (cont.)

Selected macroeconomic indicators of Republic of North Macedonia (2009- 2020)												
	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Inflation %	-0.70	1.50	3.90	3.30	2.74	-0.23	-0.32	-0.21	1.31	1.51	1.50	2.00
Unemployment	32.20	32.00	31.40	n.d.	29.00	n.d.	26.12	23.7	22.3	20.7	17.5	n.d.
Trade Balance % of GDP	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	-2.01	-2.80	-1.00	-0.31	n.d.	n.d.
Exports % GDP	-13.80	23.60	16.10	1.90	6.14	16.42	8.44	9.02	8.15	n.d.	n.d.	n.d.
Imports % GDP	54.30	58.00	66.00	66.83	61.41	64.82	64.92	65.50	69.79	n.d.	n.d.	n.d.
Current Account Deficit (% of GDP)	-6.40	-2.00	-2.40	-3.24	-1.62	-0.61	-1.98	-2.90	-.08	n.d.	n.d.	n.d.

Source: Adopted from State Statistical Office (2019a); National Bank of the Republic of North Macedonia (2019b); Trading Economics (2019); World Bank (2019f)

For the table of macroeconomic indicators, different sources were used, and unfortunately, some data for several years were not provided. Data provided for 2019, are only for the first and second quarter of the year, while data for 2020 are forecast.

Poverty - About 1/3 of 30.4% of Macedonians in North Macedonia are considered poor (Krajewski, 2017). In a country with 2,000,000, six hundred thousand individuals live below the poverty line, and it is high and Working Poverty (IWP).Based on the EU, the individual is considered to be labor-poor if he has employment status and lives in a household that is at risk of poverty (Peña-Casas, Ghailani, Spasova & Vanhercke, 2019). In North Macedonia, Eurostat emphasizes 8.9% (see Figure 6) of employees who were at risk of poverty in 2016 (Mitev, 2019). However, the situation was even worse before, the IWP rate fell by 19.1% in the period 2012-2016. As shown in Figure 7, the risk of poverty rate of the total population in 2016 was 21.3 %, while the rate of self-employed persons was 18.6%.

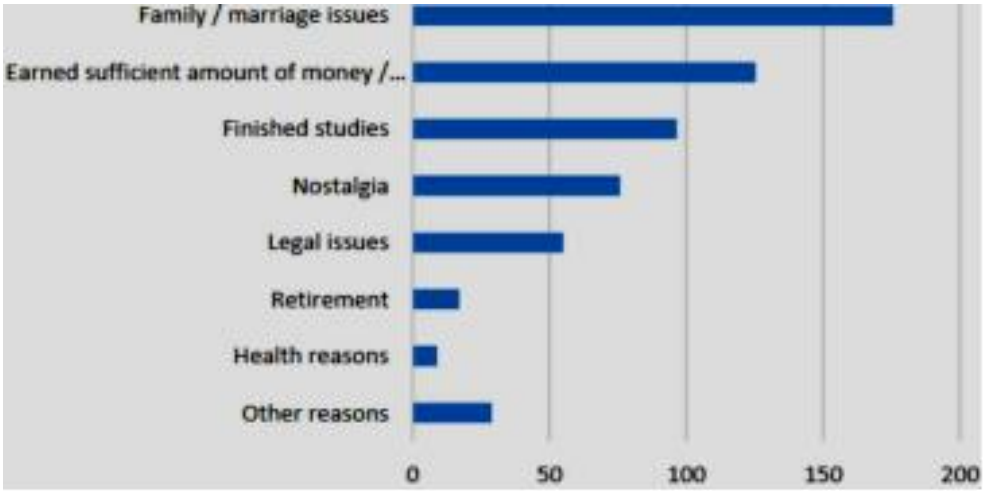


Figure 6.
Reasons migrants would consider returning home
Source: (Petreski 2016).

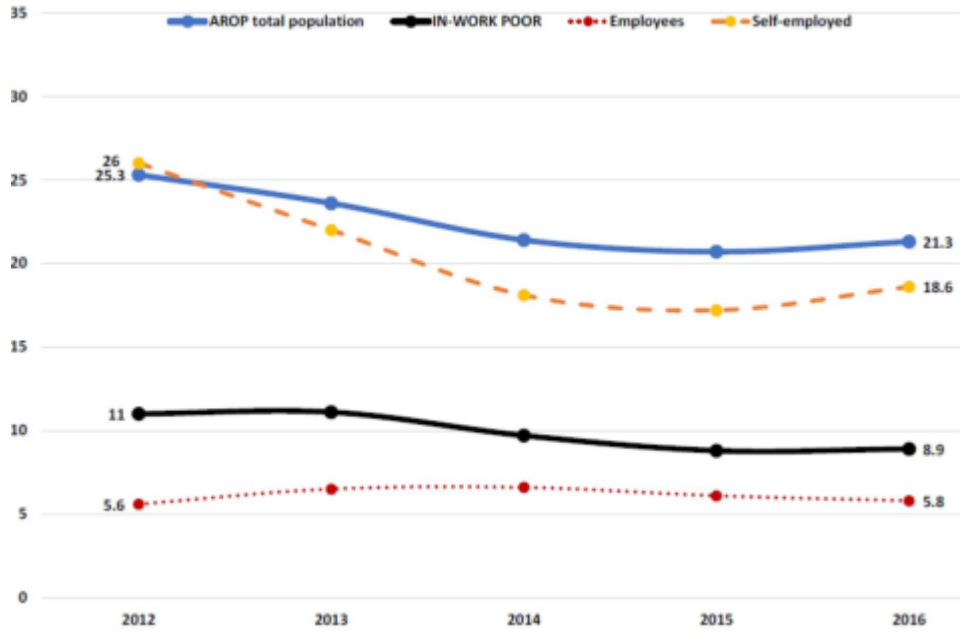


Figure 7.
Evolution of IWP rate (in percentage) for the whole population, waged employees and the self-employed in North Macedonia in the period (2012-2016)
Source: (Mitev 2019)

As is shown in Table 9, the IWP for employed people by age in North Macedonia improved from 2012 to 2016. The best improved was in the group of people among eighteen to twenty-four years. In 2012 the IWP rate for this group was 13.7 percent, while in 2016 it decreased to 5.8 percent. The second group, which consists of people from twenty-five to sixty-four- year-old, the IWP rate is higher and it had a slight decrease since 2012, from 10.6 percent to only 9.2 percent. Also, the third group of people from fifty-five to sixty-four had an improvement on their IWP rate, and it 2016 it resulted to be 8.3 percent.

Table 9
IWP rate for employed people by age, in North Macedonia 2012-2016

IWP rate of employed persons (%)	Reference period					Change 2016 vs 2012
	2012	2013	2014	2015	2016	Intensity (%)
18 to 24 years	13.7	13.90	16.30	7.70	5.80	-57.70
25 to 54 year	10.6	11.10	9.60	9.10	9.20	-13.20
55 to 64 years	11.6	9.50	7.20	8.00	8.30	-28.40

Source: (Mitev 2019)

According to Mitev (2019), some of the key challenges for North Macedonia in order to tackle the high rate of IWP are: 1. The low level of minimum salary; 2.Low-paid self- employment and part-time employment; 3. The high rate of low salaries; 4. The low education level and 5. Lack of labor policies. Socio-economic factors - Based on Kaasa (2003) there are several factors that

influence income inequality as follows: 1. Economic growth - this group of factors included the GDP growth which in North Macedonia is increasing but still remains very bad compared to other developed countries; 2. Macroeconomic factors-especially unemployment and inflation affect inequality. As shown in Table 3 of macroeconomic indicators, both inflation and unemployment are at very high percentages in North Macedonia; 3. Demographic factors include all processes of demographic development such as the density of population, urbanization, etc.; 4. Political factors such as high taxes, privatization, social and economic policies, and 5. Historical, cultural and natural factors include also the attitude of people toward inequality.

4. Conclusion

In summary, a conclusion can be drawn. The consequences of the "brain drain" are difficult to calculate in monetary currency. Obviously, this process leads to the weakening of the scientific potential of the country, the disintegration of the scientific schools and the limitation of a large number of basic researches in North Macedonia. Due to the small population, scientific minds are very sensitive to external social influences. In terms of economic risks, brain drain is a serious problem for North Macedonia. Once they have a good base, university and graduate students go to the West to continue their education. They often receive offers for work, residence and this is obvious economic damage to our country because the basis for further professional growth abroad is provided right here in North Macedonia. But it would be wrong to talk about the absorption of our Western science specialists.

For example, due to the general economic recession, as well as the coronavirus, there was a tightening of migration policy in the field of science and high technologies, therefore, there was a general reduction of import quotas, for example, of computer scientists. All these trends, as well as some positive developments in the economic situation of our science, allow, in general, to prepare an optimistic forecast and hope for further reduction of intellectual emigration. Effective protection of the security of scientists themselves, society and the state can only be ensured if there is a flexible and effective system for regulating intellectual migration. Thus, it is quite obvious that the question of developing an integrated system of state regulation of the national labor market, taking into account the impact on the world labor market, is ripe. As our country is involved in the global migration cycle, there is a need to create a system of the social and legal protection of emigrants, organization of consulting assistance in concluding labor contracts and the like.

In addition, such a policy needs to be based on bilateral and multilateral interstate agreements. One of these programs has already been presented, in addition, there is an experience in many foreign countries and ways to deal with brain drain problems. It remains for all this to be applied by our country in practice. I would like to believe that in the 21st century the situation will change and the North Macedonia economy will flourish.

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