

## STUDY ON THE ROLE OF GLOBALIZATION IN GROWING THE MOBILITY OF INTERNATIONAL STUDENTS IN THE LAST DECADE

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### **Abstract**

*One of the advantages of the globalization process is that of ensuring the circulation of young people at the global level, ensuring their access to existing learning resources in countries with a developed and recognized higher education system worldwide. Starting from the existing data in various international, community and national databases, in this work we proposed to analyze the mobility situation of undergraduate, master's and doctoral students from the period 2012-2022, with the aim of identifying the countries that are on the first places in the world both in terms of student entry flows and their exit flows. The analysis was carried out starting from indicators such as the number of students leaving for studies, the number of students entering for studies, their growth rate, but also the mobility rate at the entrance or the mobility rate at the exit. The data were processed and analyzed with the help of statistical methods, thus being able to formulate conclusions regarding the situation of student mobility from the last decade, given the identification of solutions regarding the provision of future flows of students for higher education institutions, under the conditions that, globally, the population aged between 20-24 will decrease in areas such as Europe or North America. Under these conditions, the educational institutions recognized for the quality of the programs offered will be able to attract students from countries in Asia or Africa, countries in which both the share of the young population and mobility have increased in the last five years. Among these countries are India, with an increase of over 100%, Vietnam with an increase of 95% or China, with an increase of 33%.*

**Key words:** education, incoming mobilities, outgoing mobilities, globalization

### **INTRODUCTION**

Education is one of the priority areas of any country that wants a sustainable economic development, it contributes both to individual development and income growth, but also to the promotion of competitiveness, economic growth and poverty reduction [7, 15, 16]. In the specialized literature, different points of view are presented regarding the relationship between education and economic development. Thus, in 1961 Schultz, and then in 1992 Mankiw et al. they showed that as the degree of specialization of human capital increases, so does labor productivity, which leads to progress [14, 18]. Benhabib and Spiegel believe that education is what contributes to the dissemination of information that can thus influence economic growth [4]. Aghion and Howitt argue that through education and research there is an

increase in innovation capacity, which through progress leads to development [2]. Education has an important role in the elaboration and development of social policies, which have a direct impact on increasing the degree of social inclusion, but also in reducing disparities that exist at the regional level. Education can also contribute to increasing social mobility. Through education, the skills acquired can contribute to increasing the standard of living and to the development of society, aspects with an important role in the conditions of a global economy [1, 6].

On the other hand, some authors consider that in the rush to pursue economic growth, innovation, investments, measures are taken at the political level to reduce the funds allocated to education with direct consequences on human capital [21, 13]. To measure the degree to which education can

contribute to economic growth, one of the analyzed indicators is GDP. The percentage of GDP attributed to education financing is directly proportional to the results obtained and the quality of the education system. To the same extent, however, the analysis must be carried out with the total value of the GDP of a country, but also with its value per capita. The identification of these requirements and the possibility of pursuing some forms of education recognized for their quality and prestige determine mobility among students. In addition to these aspects, an important role in the evolution of mobility was played by globalization, the development of technology, the use of modern learning systems, artificial intelligence, etc. [3, 17].

At the political level, there were measures that in turn contributed to increasing mobility in the education system. Thus, in Europe the first step was represented by the Sorbonne Declaration that preceded the Bologna Process through which the foundations were laid for coordinating and harmonizing the recognition of higher education diplomas through transferable credits, the educational barriers within the different education systems being thus removed [19]. Since 1999, these principles of the Bologna process began to be applied, which continues to evolve and adapt to the continuous modernization requirements of the education system, thus contributing to the increase of student mobility and the development of the regions of the world. Later, a European Area of Higher Education was established, made up of 29 countries. At the moment, the number of these countries is 48, the accession being voluntary and aiming to ensure comparability between the education systems recognized for the high level of quality.

## MATERIALS AND METHODS

The work followed the analysis of student mobility, both worldwide and European, starting from the statistical data existing in the databases. The analyzed indicators were: Number of mobilities, Incoming students per countries, Number of outgoing students, mobility balance, mobility rates, etc.

The mobility balance is an important indicator through which the number of higher education students entering and leaving a country and their ratio is compared (the indicator being used at the level of the EHEA countries) with the aim of reducing imbalances related to the existence of knowledge flows.

The indicators that were the basis of the analysis carried out were followed in evolution, based on indices with a fixed base or with a chain base, with the aim of tracking their changes in the period 2012-2020, so that conclusions can be drawn regarding the evolution of the mobility situation in the education system.

Established calculation formulas were used:

$$I_{i/0} = \frac{X_i}{X_0} \times 100 \quad [9]$$

where:

$X_0$  - initial level

$X_1, X_2, \dots, X_n$  - period level

$$\text{Entry mobility rate} = \frac{\text{Entered students}}{\text{Total students}} \times 100$$

$$\text{Out mobility rate} = \frac{\text{Out students}}{\text{Total students}} \times 100$$

## RESULTS AND DISCUSSIONS

Specialized works show that there is a close connection between a country's GDP and its level of education, as well as between the percentage of GDP that is intended to finance the education system [5, 11, 12]. This is justified by the fact that increasing the income of the population leads to obtaining resources that will later be used to finance education, and increasing the level of education is a value-added resource that will contribute to economic development. Along with this economic growth, the process will continue leading to an increase in GDP, thus ensuring the cyclical and efficiency of this system [8]. Besides these factors, other elements have an important role, such as: employment, unemployment rate, the level of development of a country, etc. Based on the data published by UNESCO in March 2023 (Table 1), it is found that, worldwide, the financing of

education from 2012-2022 had percentages between 1.23% (South Sudan, 2014) and 15.74% (Marshall Islands, 2021). It is found that countries belonging to Oceania (Kiribati, Marshall Islands, Micronesia) have a high funding of the education system in relation to GDP, given that the GDP value in 2021 was 1.606 USD/capita (Kiribati), 6.172 USD/capita (Marshall Islands) and 3.571

USD/capita. For its part, Greenland had in 2013 an education funding of 13.34% GDP, in the conditions where the GDP value was 47,536 USD/capita.

A percentage of 7.16% of the GDP was allocated to education financing by New Zealand in 2012 (the value of GDP/capita being USD 39,973).

Table 1. The financing situation of the education system in the period 2012-2022 (% of GDP)

| Country                    | 2012  | 2013  | 2014  | 2015  | 2016  | 2017  | 2018  | 2019  | 2020  | 2021  | 2022 |
|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------|
| Austria                    | 5.48  | 5.55  | 5.45  | 5.46  | 5.48  | 5.37  | 5.23  | 5.22  | *     | *     | *    |
| Belgium                    | 6.26  | 6.63  | 6.59  | 6.45  | 6.46  | 6.43  | 6.38  | 6.33  | *     | *     | *    |
| Bulgaria                   | 3.48  | 4.06  | 4.08  | 3.92  | 3.40  | 4.08  | 4.05  | 4.20  | *     | *     | *    |
| Cyprus                     | 5.91  | 6.47  | 6.42  | 6.30  | 6.12  | 5.70  | 5.15  | 5.21  | *     | *     | *    |
| Croatia                    | 4.78  | 4.49  | 4.94  | 4.93  | 4.72  | 3.85  | 3.90  | 3.91  | *     | *     | *    |
| Czechia                    | 4.22  | 4.05  | 3.97  | 5.75  | 5.55  | 3.81  | 4.27  | 4.54  | *     | *     | *    |
| Denmark                    | 7.24  | 8.49  | 7.63  | 7.01  | 7.48  | 7.12  | 7.00  | 6.91  | *     | *     | *    |
| Estonia                    | 4.72  | 4.84  | 4.39  | 5.14  | 5.16  | 4.96  | 5.24  | 5.30  | *     | *     | *    |
| Finland                    | 7.15  | 7.12  | 7.10  | 7.03  | 6.85  | 6.36  | 6.28  | 6.42  | *     | *     | *    |
| France                     | 5.49  | 5.49  | 5.49  | 5.45  | 5.41  | 5.45  | 5.41  | 5.35  | *     | *     | *    |
| Germany                    | 4.93  | 4.94  | 4.92  | 4.86  | 4.84  | 4.87  | 4.98  | 5.12  | *     | *     | *    |
| Greece                     | 4.51  | 4.48  | 4.29  | 3.66  | 3.97  | 3.48  | 3.60  | 3.59  | *     | *     | *    |
| Hungary                    | 4.14  | 4.19  | 4.60  | 4.50  | 4.62  | 4.61  | 4.62  | 4.23  | *     | *     | *    |
| Ireland                    | 5.75  | 5.34  | 4.87  | 3.76  | 3.74  | 3.50  | 3.39  | 3.29  | *     | *     | *    |
| Italy                      | 4.06  | 4.14  | 4.06  | 4.07  | 3.82  | 4.04  | 4.26  | 4.10  | *     | *     | *    |
| Latvia                     | 6.58  | 7.00  | 5.28  | 5.28  | 4.66  | 4.37  | 4.24  | 4.42  | *     | *     | *    |
| Lithuania                  | 4.76  | 4.60  | 4.49  | 4.23  | 4.00  | 3.81  | 3.89  | 3.97  | *     | *     | *    |
| Luxembourg                 | 3.88  | 4.94  | 3.86  | 3.77  | 4.46  | 3.49  | 3.66  | 3.74  | *     | *     | *    |
| Malta                      | 6.35  | 7.58  | 7.00  | 5.02  | 5.11  | 4.56  | 5.14  | 4.99  | *     | *     | *    |
| Netherlands                | 5.41  | 5.53  | 5.46  | 5.35  | 5.48  | 5.18  | 5.36  | 5.16  | *     | *     | *    |
| Norway                     | 7.37  | 7.49  | 7.70  | 7.57  | 8.03  | 7.91  | 7.64  | 7.94  | *     | *     | *    |
| Poland                     | 4.86  | 5.02  | 4.97  | 4.82  | 4.66  | 4.57  | 4.61  | 4.68  | *     | *     | *    |
| Portugal                   | 4.95  | 5.27  | 5.12  | 4.89  | 4.77  | 5.02  | 4.68  | 4.63  | *     | *     | *    |
| Romania                    | 2.82  | 3.07  | 3.13  | 3.11  | 3.03  | 3.12  | 3.32  | 3.57  | 3.70  | 3.44  | 3.12 |
| Serbia                     | 3.85  |       |       |       | 3.63  | 3.71  | 3.58  | 3.62  | *     | *     | *    |
| Slovakia                   | 3.86  | 4.07  | 4.22  | 4.58  | 3.90  | 3.93  | 3.95  | 4.27  | *     | *     | *    |
| Slovenia                   | 5.62  | 5.41  | 5.29  | 4.91  | 4.79  | 4.78  | 4.93  | 4.90  | *     | *     | *    |
| Spain                      | 4.47  | 4.35  | 4.30  | 4.28  | 4.23  | 4.21  | 4.18  | 4.23  | *     | *     | *    |
| Sweden                     | 7.54  | 7.61  | 7.57  | 7.44  | 7.62  | 7.57  | 7.64  | 7.64  | *     | *     | *    |
| Switzerland                | 4.90  | 4.91  | 4.93  | 5.00  | 4.98  | 5.02  | 4.93  | 5.09  | *     | *     | *    |
| United Kingdom             | 5.60  | 5.53  | 5.60  | 5.55  | 5.42  | 5.43  | 5.20  | 5.25  | *     | *     | *    |
| United States of America   | 6.28  | 6.25  | 6.14  | 4.95  | 4.81  | 5.12  | 4.93  | 4.99  | *     | *     | *    |
| Canada                     | 4.69  | 4.59  | 4.84  | 4.74  | 4.82  | 4.96  | 4.89  | 4.77  | *     | *     | *    |
| Japan                      | 3.65  | 3.62  | 3.55  | 3.27  | 3.15  | 3.13  | 3.08  | 3.16  | *     | *     | *    |
| Singapore                  | 3.07  | 2.85  | 2.92  | 2.86  | 2.87  | 2.77  | 2.86  | 2.73  | 2.70  | 2.76  | 2.55 |
| China                      | 3.94  | 3.71  | 3.73  | 3.81  | 3.76  | 3.67  | 3.54  | *     | *     | *     | *    |
| China, Hong Kong           | 3.51  | 3.76  | 3.57  | 3.26  | 3.29  | 3.31  | 3.33  | 3.81  | 4.41  | 4.00  | *    |
| China, Macao               | 3.33  | 2.05  | 2.05  | 3.00  | 3.10  | 2.71  | 2.73  | 3.06  | 6.36  | *     | *    |
| Israel                     | 5.59  | 5.78  | 5.70  | 5.80  | 5.80  | 6.01  | 6.06  | 6.06  | *     | *     | *    |
| Australia                  | 4.87  | 5.23  | 5.16  | 5.32  | 5.29  | 5.14  | 5.12  | 5.13  | *     | *     | *    |
| Kiribati (Oceania)         | 13.38 | 12.26 | 12.95 | 12.11 | 13.48 | 13.60 | *     | *     | *     | *     | *    |
| Marshall Islands (Oceania) | *     | *     | *     | *     | 15.05 | 15.07 | 15.00 | 9.92  | *     | 15.74 | *    |
| Greenland                  | 12.87 | 13.34 | 12.80 | 12.00 | 11.09 | 10.93 | 10.55 | 10.11 | 10.18 | *     | *    |
| Micronesia (Oceania)       | 11.72 | 12.34 | 12.23 | 12.41 | *     | 12.42 | *     | 10.21 | *     | *     | *    |
| Namibia                    | 9.08  | 8.60  | 8.99  | 9.53  | 10.31 | 9.71  | 9.62  | 9.32  | 9.28  | 10.05 | 9.52 |
| Faeroe Islands             | 7.84  | 8.07  | 8.17  | 7.58  | 7.40  | 7.85  | 8.43  | 7.31  | 8.04  | *     | *    |
| New Zealand                | 7.16  | 6.70  | 6.34  | 6.33  | 6.41  | 6.26  | 6.06  | 5.16  | *     | *     | *    |
| South Africa               | 5.52  | 5.35  | 5.49  | 5.48  | 5.44  | 5.60  | 5.64  | 5.93  | 6.18  | 6.56  | 6.56 |
| South Sudan                | 1.25  | 1.02  | 1.23  | 1.47  | 1.57  | *     | *     | *     | *     | *     | *    |
| United Arab Emirates       | 1.31  | 1.45  | 1.54  | 1.71  | 1.74  | 1.64  | 1.51  | 3.86  | 3.98  | 3.90  | *    |
| Cambodia                   | 1.41  | 1.48  | 1.57  | 1.70  | 1.87  | 2.10  | 2.45  | 2.83  | 3.00  | 1.67  | *    |

\* lipsa date Source: prelucrare proprie [20].

The education system in the USA was financed in the period 2012-2019 with percentages between 4.81% and 6.28%, given that the GDP value in 2016 and 2012 was USD 57,867/capita and USD 51,784/capita. In Japan, the share of GDP used to finance education was 3.16% in 2019, compared to a GDP/capita of USD 40,458.

The European education system is financed with high shares of GDP in countries such as Sweden (7.44%-7.64%), Norway (7.37%-8.03%), Denmark (6.91%-8.49%) or Finland (6.28%-7.15%), given that in 2021 GDP/capita had values of USD 61,029 (Sweden), USD 89,153 (Norway), USD 68,008 (Denmark) and USD 53,655 (Finland). In countries like Germany, with a GDP/capita of USD 51,004 in 2021, education was financed between 2012-2019 with percentages between 4.84 and 5.12% of GDP, and France, with a GDP/capita of USD 43,659/capita in 2021 financed education with percentages between 5.35 and 5.49%, in the analyzed period.

Romania with a GDP of USD 14,853/capita in 2021 had the lowest shares of funds granted to education among the European Union countries. In 2012, education was financed with 2.82% of GDP, reaching 3.70% in 2020. However, there is an increase in the share of GDP allocated to the financing of education, a trend also recorded at the level of other EU countries such as Bulgaria, Estonia, Germany, Switzerland. In many other EU states the share of GDP allocated to the financing of the education system decreased in the analyzed period (Croatia, Greece, Ireland, Malta, Slovenia).

If in 2020, worldwide, the number of mobilities was 6,361,963, an increase compared to previous years, in 2021 their number decreased by 12%, reaching 5,571,402. The largest number of mobilities was registered in Europe (2,214,161), followed by Asia (1,225,253), North America (1,211,931), South America (190,423) and Africa (224,480). If in 2000, the number of mobilities was 2.1 million, in the following ten years they increased by 1.6 million reaching 3.7 million, worldwide. The highest growth rate (33.33%) was recorded in the

period 2000-2005. In the period 2005-2010 it was 32%, in the period 2010-2015 30%, and in the period 2015-2020 31%. The growth rate in 2019 compared to 2018 was 6%, given that international mobility reached 6.1 million, and in 2020 the growth rate compared to the previous year was 4%.

Globally, it is noted that there has been an increase in the number of students belonging to higher education. At the global level, substantial increases have come from Asia, Africa or South America. There were also increases in Oceania (7) or North America (5%). The only area with a negative impact on the total number of students was Europe, the area where the decrease was approximately 15% and which was due to the decrease in the young population, with a direct impact on the school population.

For the next period of time, specialists' estimates indicate a decrease in the population aged between 20-25 years, which will have a direct impact on the mobility of the student population. Thus, by 2050 in Europe and North America they will hold approximately 5% in this age category, and in South America approximately 7%. In Africa, however, the young population will grow, so that the age group of 20-25 years will represent 33% of the total. Another particularity is given by the young population of Asia, which, although decreasing, will represent 50% of the total in 2050.

Globally, in 2021, four of the world's countries received 40% of the mobilities of higher education students. The first 5 places worldwide were occupied, in this order, by the United States, the United Kingdom, Canada, Germany and Australia. The following places, in a top of the first 10 countries, were occupied by France, China, the United Arab Emirates, Turkey and the Netherlands.

A comparative analysis of student entries from 2015 and 2020 shows that for the countries that held the first 6 places in 2015, no changes occurred in the 5 years. Instead, France dropped from 4th place in 2015 to 7th place in 2020. Although the number of students entered for studies in 2015 was from 239,409, and in 2020 it was 252,444,

compared to the global number, there was a decrease in the share them.

The United Arab Emirates and Turkey have climbed this ranking. If in 2015 they occupied the 11th and 13th positions, in 2020 they have 3 and 4 places respectively in the ranking, thus reaching among the countries that make

up a Top 10 worldwide. Thus, from a number of 73,445 students entered for studies in the United Arab Emirates in 2015, the number of increased to 215,975 students in 2020. In Turkey in 2015, 72,178 students entered for studies, and in 2020 185,047 students.

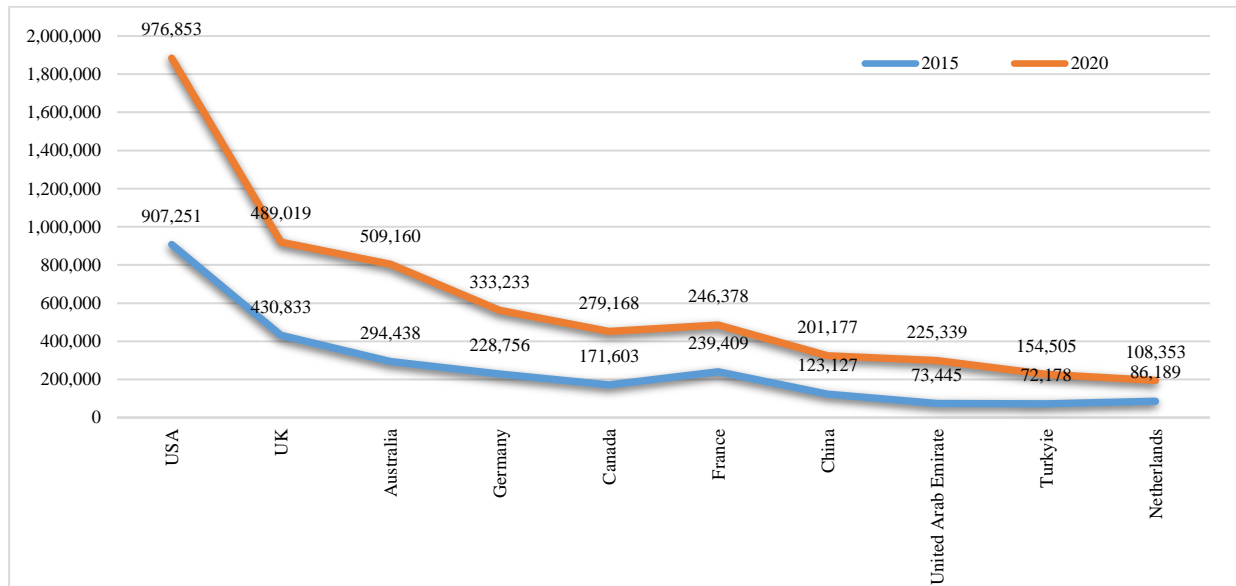


Fig. 1. The situation of student admissions, by country, in 2015 and 2020  
 Source: own processing [20].

Analyzing the situation of students who went to study in other countries, we find that China, India, Vietnam, Germany, France, USA, etc. are on the top 10 places globally (Fig. 2). Thus, it can be seen that in the period 2015-2020 the countries that had high values of student outflows were Nepal (with an increase

of 2.35 times in the five years), India (with a doubling of the number of students leaving for studies), the USA and China (with increases of approximately 30%). However, the Republic of Korea had a negative influence on the number of students who went to study.

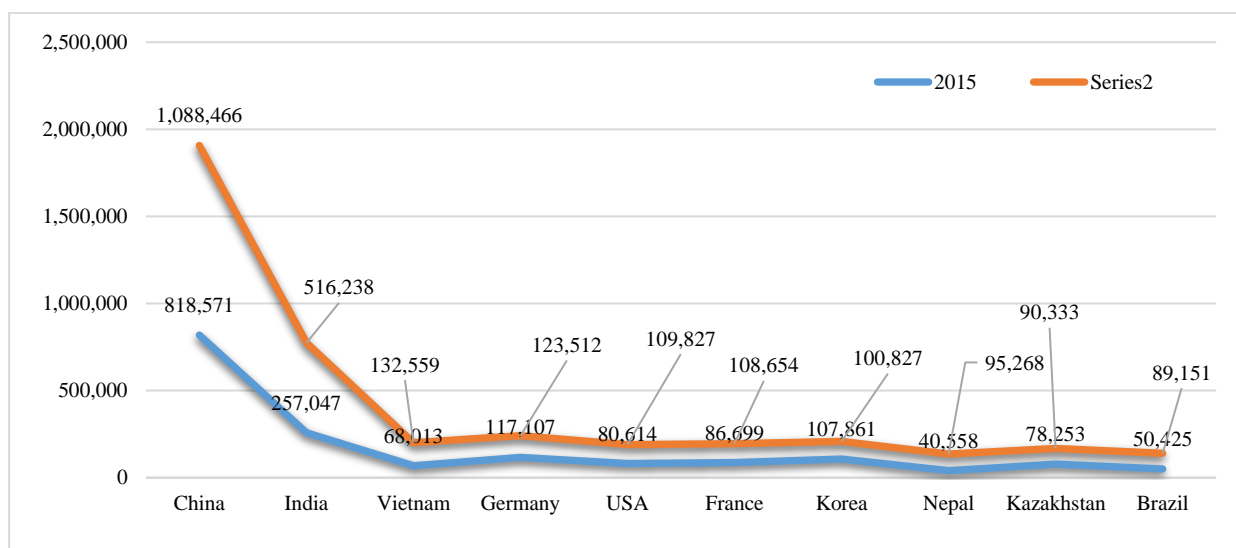


Fig. 2. The situation of the number of students leaving for studies, by country, in 2015 and 2020  
 Source: own processing [20].

Looking at the current situation in Romania, we can see that the number of enrolled mobile students from abroad increased during the analyzed period. The number of students in 2015 was 15,329 and the number of students in 2020 was 23,601. At the level of the European Union, the number of students involved in mobility decreased in 2019, the cause being that of the Covid-19 pandemic, which had a direct impact on mobility in all

fields, not only in education. Although the education continued online, some of the students gave up their studies. The decrease was 12% in 2019, and in 2020 we can talk about a return, the increase compared to 2019 being 3%.

Compared to the total registered at the level of the European Union, Romania had shares close to 3% (3.12% in 2018, 3.86% in 2019 or 3.62% in 2020).

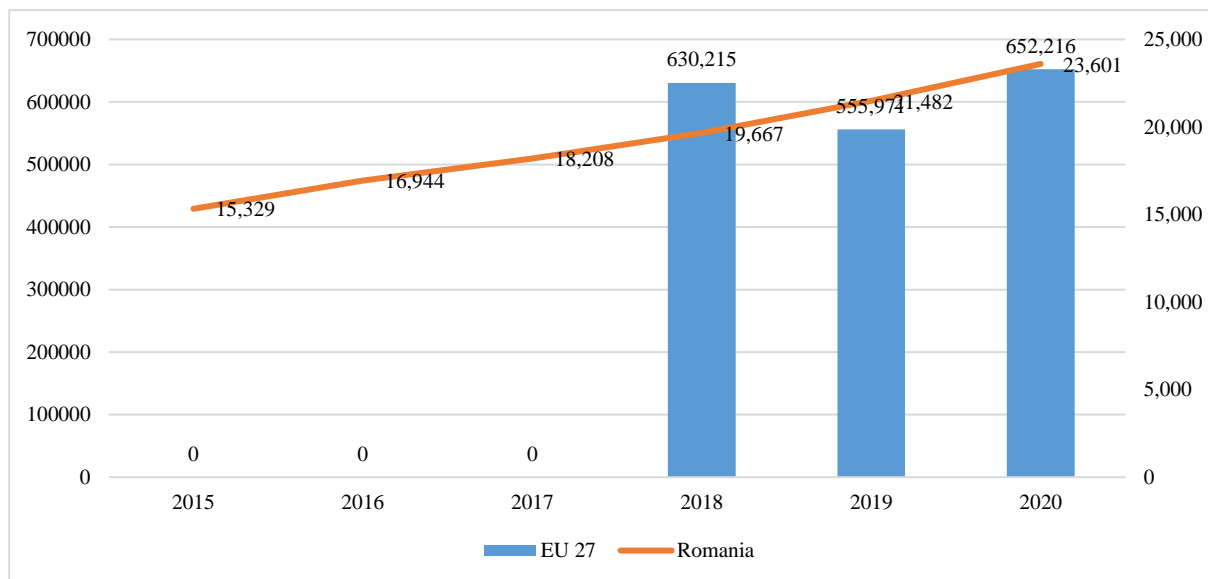


Fig. 3. Mobile students from abroad enrolled by country of origin (Romania)  
 Source: own processing [10].

At the level of 2021, the mobility flows, both for the departures from the country for studies, as well as the entry of some foreign students to study in Romania were relatively

equal, the difference being only 1,074 students resulting from the 32,560 students who left to studies and the 31,486 students who came to study.

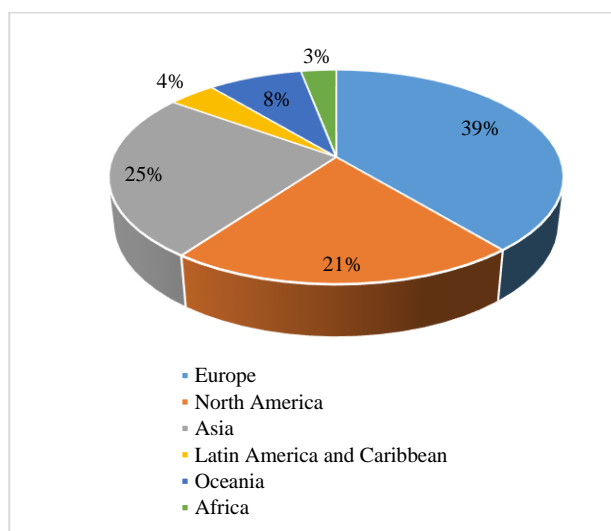


Fig. 4. Structure of mobilities, by destination, in 2021  
 Source: own processing [20].

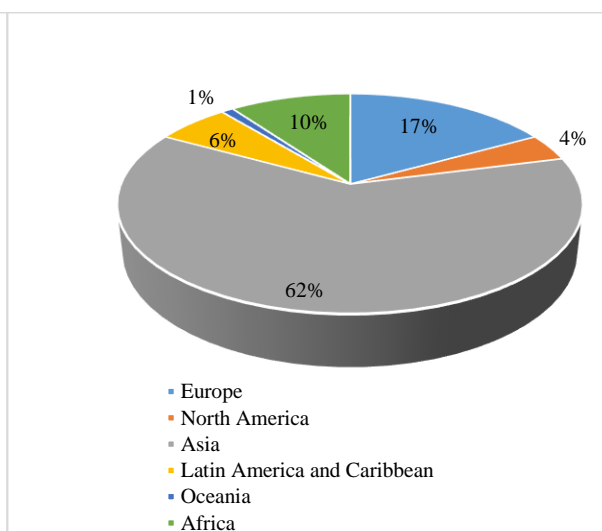


Fig. 5. Structure of mobilities, by origin, in 2021  
 Source: own processing [20].

The structure of mobilities by destination is shown in Fig. 4 and by origin in Fig. 5.

Of the total number of students who went to study abroad, the largest share (34.26%), i.e. 10,789 study in the United Kingdom. Approximately 9% of them (2,899) follow courses in Germany, and 8% each in Hungary (2,593) and Moldova (2,675). Also, 7% study in France (2,198), 6% in Denmark (1,542), 4% in Spain (1,226) and 3% each in Austria (1,076) and the United States (933).

Under these conditions, the exit mobility rate was 5.8, while the entry mobility rate was 6.0. In the United Kingdom the number of mobile students abroad being 40,074, determined an Outbound Mobility Rate of 1.5. The total number of mobile students hosted determined an Inbound Mobility Rate of 20.1, as a result of which the number of students was 550,877. The United States had a high Inbound Mobility Rate (15.0) driven by the total number of mobile students hosted (957,475). Instead, the Total number of mobile students abroad was 109,827, and the Outbound Mobility Rate was 1.7. Australia (26.0), Austria (18.0), Belgium (10.4), Canada (18.2), Hong Kong (16.5), Macao (59.3), Czech Republic (15.0), Denmark (10.2), France (9.2), Germany (11.2), Holland (13.3), Switzerland (18.1) much higher than Outbound Mobility Rate.

However, the countries that register Outbound Mobility Rate much higher than Inbound Mobility Rate are Italy (4.2 compared to 2.9), India (1.4 compared to 0.1), Greece (5.0 compared to 2.8).

## CONCLUSIONS

At the international level, there is an increase in the number of mobility among students, an increase of approximately 70% recorded in the period 2010-2022.

The most sought after educational programs attract students from all over the world. An important factor is also represented by tuition fees, but it is found that the largest inflows belong to countries such as the United States of America, Canada, Australia, but also to many European countries with a tradition in terms of education (Great Britain, Germany,

France). China, for its part, attracts high flows of students interested in bachelor's, master's or doctoral studies.

The students who leave their countries of origin and ensure mobility in university education and who occupy the first places in the world are China, India or Vietnam. Also, the students from the United States of America or Germany are the ones who go to study in other countries than the ones of origin.

Empirical studies show that there is a direct correlation between the level of funding of education within a country and its quality, which makes those systems that benefit from high funding to be sought by international students.

In the medium term, however, as a result of the decrease in the number of young people, in areas such as Europe or America, the functioning and development of higher education systems can be ensured by attracting young people from areas such as Asia or Africa, where the share of young people aged between 20- 24 years will increase in the next period.

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