

Analysis on the Current Situation and Common Ground of Higher Education in Central and Eastern European Countries: Take Hungary and Bulgaria as Examples

Sen Wang^{1,a,*}, Miaomei Liu^{2,b}

¹School of Management, Hebei University, Baoding, Hebei, China

²School of Information Engineering and Computer, Hebei Finance University, Baoding, Hebei, China

^awangsen3926@foxmail.com, ^b18931217164@189.cn

*Corresponding author

Keywords: Education in Central and Eastern Europe, Higher Education, Education in Hungary, Education in Bulgaria

Abstract: As China embarks on a new journey to achieve the second centenary goal, there are also deeper requirements for the development of higher education. By analyzing the Central and Eastern European countries represented by Hungary and Bulgaria, and based on the official data of the two countries' colleges and universities setting, level distribution and international education, it is found that the two countries have the common characteristics of reducing the scale of higher education and mainly studying in neighboring countries in the region. In view of the content and results of the analysis, it is believed that further discussion of the following issues will have certain significance for building an educational power: (1) the supplementary role of private higher education institutions to the higher education system; (2) the configuration of higher education institutions in the region; (3) higher education institutions balance strategy between the scale, quality and demand of education; (4) the new model of international cooperation in higher education.

1. Introduction

Outline of the 14th Five-Year Plan (2021-2025) for National Economic and Social Development and Vision 2035 of the People's Republic of China clearly pointed out that by 2035, China will basically achieve socialist modernization and become a powerful country in education. In the next 15 years, in the face of the important strategic opportunity period for China's modernization drive, how to achieve high-quality development of higher education will become one of the keys to building China into an educational power. As a developing country with the largest scale of higher education in the world, it is of great significance to learn from the higher education development models of other countries in the world for the development of China's higher education.

In 1999, in order to integrate higher education resources, promote the integration of higher education, and build the European Higher Education Area, 29 European countries signed the *Bologna Declaration* in Bologna, Italy, officially launching the Bologna Process. As of 2020, 52 political entities have joined the Bologna Process, including all Central and Eastern European countries. Joining the Bologna Process has prompted these countries to begin to reform their higher education systems and policies. At the same time, Central and Eastern European countries have their own characteristics in the process of policy formulation and implementation based on their different national conditions.

2. Analysis Object Profile

In order to clarify the specific research scope, the definition of the spatial scope of central and Eastern Europe in the study adopts the connotation of the "16 + 1" cooperation framework proposed by the Ministry of foreign affairs in 2012, that is, the spatial scope of Central and Eastern Europe is determined in the three subregions of Eastern Central Europe, Southeast Europe and Western

Eastern Europe^[1]. In order to accurately analyze the current situation and characteristics of higher education in Central and Eastern European countries, Hungary and Bulgaria are selected as the specific analysis objects.

2.1. Hungary

Hungarian higher education has a long history of development. After the end of the Cold War, it has undergone several rounds of reform and transformation. The establishment of the first university in Hungary can be traced back to the 14th century. Since entering modern times, the number of Hungarian higher education institutions has gradually increased, and the quality of higher education has also improved significantly. After the 1990s, Hungary began to reform higher education. In July 1993, Hungary promulgated the first higher education law in history, which opened a new round of reform in Hungary's higher education focusing on improving legislation and policy supervision. In 1999, Hungary joined the Bologna Process and began to carry out credit transfer and reform of the tertiary degree system. Subsequently, affected by the economic crisis in 2008, the path of Hungarian higher education reform gradually changed from the level of legislation and policy supervision to the level of higher education finance, and began to focus on improving the efficiency of higher education and scientific research financial funds. After decades of development, Hungarian higher education has now formed an international higher education development pattern based on domestic actual needs, centered on the integration of EU higher education, and guaranteed by legal construction.

2.2. Bulgaria

Higher education in Bulgaria has only gradually emerged since the end of the 19th century due to the influence of Ottoman rule from the 14th century. In 1888-1889, the higher normal course opened at the Gimnazia boys' school in Sofia became the beginning of higher education in Bulgaria^[2]. Subsequently, Bulgaria gradually improved its higher education legislation and established a relatively complete higher education system. In the 1990s, Bulgarian higher education also embarked on the road of reform. Different from other countries, the reform of Bulgarian higher education has gone through a process of "expansion-control-opening". In 1990, Bulgaria regained academic autonomy, and Bulgarian higher education institutions began to independently decide on organizational structure, admissions, and funding. On this basis, Bulgarian higher education ushered in a rapid development. However, excessive and rapid expansion also brings about the problem of slow improvement in the quality of education. To this end, the Bulgarian government has gradually resumed control of higher education since 1995, and began to gradually reduce the number of higher education enrollments in a planned way. In 1999, Bulgaria joined the Bologna Process, and the government gradually relaxed its control over higher education institutions, but still retained control over the overall size of enrollment. After a series of adjustments, Bulgarian higher education has shown a state of free development under the guidance of the government.

3. The Current Situation of Higher Education Development in the Two Countries

In order to further grasp the characteristics of higher education in Hungary and Bulgaria, it is necessary to sort out the current development of higher education in the two countries. The development of higher education in Hungary has a profound historical origin and is relatively complete; the development of higher education in Bulgaria is in a period of expansion and opening. The development of higher education in the two countries is representative of the Central and Eastern European countries.

3.1. Higher Education Institution Settings

There are currently 66 higher education institutions accredited by the Hungarian government. According to different propriety, Hungarian higher education institutions are divided into two categories: state and non-state, of which 29 are state institutions and 37 are non-state institutions. According to the different forms of higher education institutions, Hungary divides its higher

education institutions into three categories: university, applied university and college. These three categories also include state and non-state. It is worth noting that among the non-state higher education institutions in Hungary, the higher education institutions supported by the church occupy a very important position. In Hungary, there are 25 higher education institutions maintained and operated by churches or religious organizations, accounting for 67.6% of the total number of non-state higher education institutions; 5 of them are universities, accounting for 71.4% of the total number of non-state universities; 20 of them are colleges, accounting for 69.0% of the total number of non-state colleges.

Table 1 Classification of Hungarian higher education institutions^[3].

	University	Applied university	College	Total
State	21	5	3	29
Non-state	7	1	29	37
Total	28	6	32	66

There are 51 higher education institutions recognized by the Bulgarian government. According to different proprietary, the Bulgarian government divides higher education institutions into two categories: public and private. According to the different forms of higher education institutions, Bulgarian higher education institutions can be divided into two categories: universities and higher education colleges. In the colleges, there are two naming expressions: academy\college\school and higher school , of which there are 16 colleges and 4 higher schools.

Table 2 Classification of Bulgarian higher education institutions^[4].

	University	Higher education college	Total
Public	25	13	38
Private	6	7	13
Total	31	20	51

3.2. Hierarchical Distribution

Since Hungary and Bulgaria joined the Bologna Process, both countries have completed the reform of the three-level degree system and joined the European credit transfer system, further enhancing the recognition of domestic higher education in Europe.

In the past five academic years in Hungary, the total number of students in higher education has decreased, from 278,308 in the 2016/2017 academic year to 270,996 in the 2020/2021 academic year, with an average decrease of 1,462.4 per academic year, with an average annual growth rate of -0.7%. Among them, the number of students studying for a bachelor's degree and master's degree decreased from 174,158 and 96,792 to 169,699 and 91,150, with an average annual decrease of 891.8 and 1,128.4, with an average annual growth rate of -0.6% and -1.5%. In contrast to the total number, the number of students studying for doctoral degree is increasing, from 7,358 to 10,147, with an average annual increase of 557.8 and an average annual growth rate of 8.8%^[5]. It is worth noting that the number of students pursuing doctoral degrees in Hungary in the 2019/2020 academic year increased by 24.4% compared to the previous academic year to 9,414. This may be due to the upgrade of higher education qualifications brought about by the improvement of the educational level of the school-age population in Hungarian higher education, which has led to the expansion of doctoral enrollment in Hungarian higher education institutions and the formation of a larger doctoral group.

The total number of students in higher education in Bulgaria in the past five academic years has also decreased, from 249,937 in the 2016/2017 academic year to 226,361 in the 2020/2021 academic year, with an average decrease of 4,715.2 per academic year, and an average annual growth rate of -2.4%. Among them, the number of students studying for a bachelor's degree decreased from 165,572 to 147,756, an average annual decrease of 3,563.2, and an average annual growth rate of -2.8%. The number of students studying for a master's degree decreased from 77,627 to 72,035, an average annual decrease of 1,118.4, and an average annual growth rate of -1.8%^[6].

The number of students studying for a doctoral degree decreased from 6,738 to 6,570, an average annual decrease of 33.6, and an average annual growth rate of -0.6%^[7].

3.3. International Student Education

Hungary and Bulgaria both participated in the Bologna Process in 1999 and are committed to building the European Higher Education Area together with other European countries. The internationalization level of higher education in both countries has been greatly improved in this process.

In terms of overseas education, the latest (2019) study abroad data released by the UNESCO Institute for Statistics Data Center shows that a total of 13,038 Hungarians are receiving higher education in 46 countries, of which the top ten countries receive a total of 11,337 Hungarian students, accounting for 87.0% of the total number. These countries are mainly developed European countries around Hungary. In 2019, Hungary received a total of 35,069 international students from 119 countries, of which there were 18,102 students from the top ten countries, accounting for 51.6% of the total number of international students studying in Hungary. Among the top ten countries, in addition to European countries, there are China, Iran and Nigeria. The number of students studying in Hungary from the three countries accounts for 30.5% of the total number of students in Hungary in the top ten countries, indicating that Hungary is also attractive outside the European region. Figure 1 shows the ten countries with the highest number of students studying in Hungary and the ten countries with the highest number of Hungarian students.

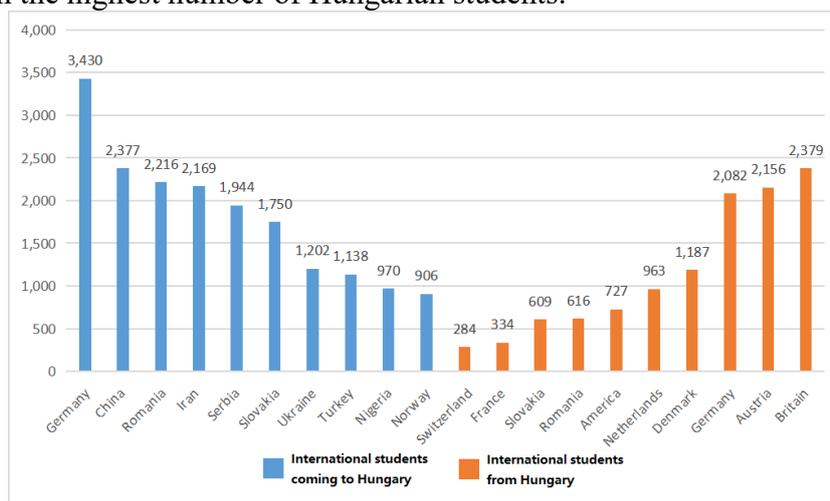


Figure 1 Hungarian international education population^[8].

In 2019, a total of 24,721 Bulgarians received higher education in 45 countries. Among them, the top ten countries received 22,754 Bulgarian students, accounting for 92.0% of the total number. Germany and the UK ranked first and second with 6,150 and 6,120 respectively. This shows that the destination of Bulgarian students studying abroad is the same as that of Hungary, and they are all focused on European developed countries. However, the choice of Bulgarian students is not limited to the surrounding countries. In the top ten countries, they are distributed from Spain and the UK in the west to Turkey in the East. In 2019, Bulgaria received a total of 16,293 international students from 80 countries, of which the top ten countries had a total of 12,771 students, accounting for 78.4% of the total number, indicating that the attractiveness of Bulgarian higher education studying abroad is still concentrated in Europe at this stage, less attractive to students from other regions. Figure 2 shows the ten countries with the highest number of students studying in Bulgaria and the ten countries with the highest number of Bulgarian students.

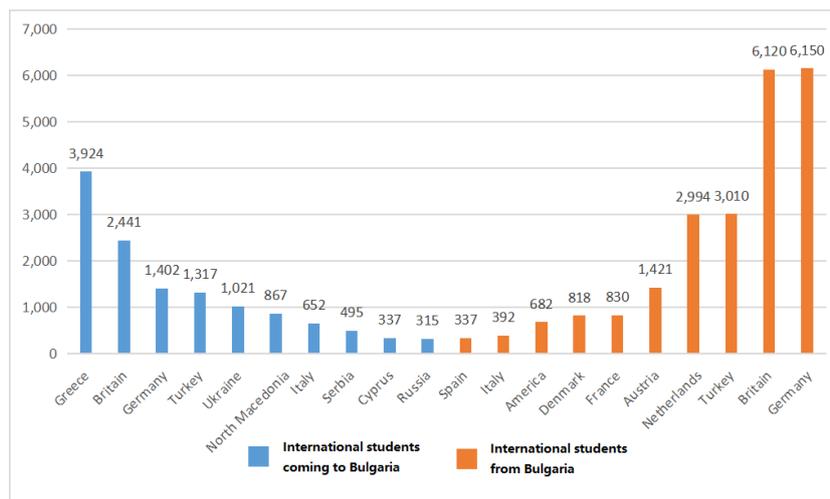


Figure 2 Bulgarian international education population^[8].

4. The Same Development Trend of Higher Education in Both Countries

Hungary and Bulgaria can represent the different status quo of higher education development in Central and Eastern European countries to a certain extent. Hungary represents the "developed country of higher education" with an early start in the development of higher education in Central and Eastern Europe, with a solid foundation and a basically complete higher education policy and system. Bulgaria represents a "higher education developing country" whose development started earlier, has a certain accumulation of higher education, and whose higher education policy and system are gradually improving. In the two types of countries, based on the consistent international environment and geopolitical environment, together with the construction of the European Higher Education Area, there is a partially the same development trend.

4.1. The Scale of Higher Education Has Been Reduced

Although the scale of higher education in Hungary and Bulgaria is not shrinking year by year, from the perspective of the trend in the past five years, it is still in a downward trend. Judging from the number of students at all levels in the past five years, the total number of students at all levels in the 2020/2021 academic year in both countries has decreased by a large amount compared with the 2016/2017 academic year. From the perspective of the average annual growth of the total number of students at all levels, the two countries showed positive growth in 2019 and negative growth in other years. Figure 3 shows the annual growth rate of the number of students enrolled at each level in Hungary and Bulgaria from 2017 to 2020.

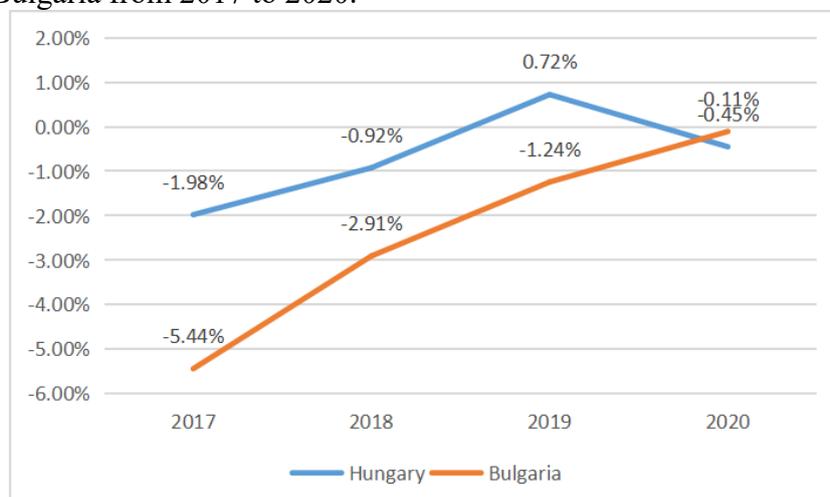


Figure 3 Growth rate of students in Hungary and Bulgaria (2017-2020).

This trend may stem from economic problems. Since the financial crisis in 2008, especially the continuous fermentation of the sovereign debt crisis of European countries, the government finances of all countries in Europe, especially in countries other than Western Europe, are in a state of extreme tension. In order to solve the financial problem and get through the financial crisis, one of the important measures taken by the government is to cut financial expenditure, and higher education is not immune. Therefore, in order to ensure a certain level of financial expenditure per student and the level of basic services per student, reducing the number of students has become a plan worth considering.

This trend may also be related to a decline in the number of people of higher education age. Taking Bulgaria as an example, according to the statistics of the Bulgarian National Bureau of Statistics, as of December 31, 2020, the number of Bulgarians aged 20-24 was 306,421, and the number of people aged 25-29 was 364,385^[9]. The 20-24-year-old group is the main age group of higher education, while the 25-29-year-old group is the main group of newly completed higher education. The difference between the two is 57,964, accounting for 25.6% of the total number of students in Bulgarian higher education institutions in the 2020/2021 academic year. The decline in the number of people of higher education age will inevitably reduce the number of higher education enrollments on the premise that the proportion of the school age population who choose to receive higher education remains unchanged.

It is worth noting that although the average annual growth rate of the total number of students at all levels of higher education in the two countries is negative, the growth rate is gradually rising in the past five years. This may be due to the improvement of the government's financial situation year by year or the optimal allocation of government financial expenditure among various expenditure items, or it may be due to the sluggish domestic and international economy under the impact of the COVID-19 pandemic, which has made more people to cope with problems such as unemployment, choose to enter universities for further study at this stage, so as to improve their own employment and social competitiveness, and relieve the economic and psychological pressure.

4.2. The Destination of Study Abroad is Mainly the Neighboring Countries in the Region

Judging from the destination countries for higher education study in Hungary and Bulgaria, international students from the two countries prefer to study abroad in Europe, especially in countries with relatively close spatial distances. Among the top ten countries with the largest number of students studying abroad, except for the US, all are European countries. Judging from the number of international students received by neighboring countries in 2019, Hungary's neighboring countries received a total of 3,523 Hungarian students (2,156 in Austria, 616 in Romania, 609 in Slovakia, 83 in Serbia, 30 in Croatia, 16 in Ukraine, and 13 in Slovenia), accounting for 27.0% of the number of international students in Hungary; Bulgaria's neighboring countries received a total of 3,514 Bulgarian students (3,010 in Turkey, 299 in Greece, 181 in Romania, 18 in North Macedonia, and 6 in Serbia), accounting for 15.4% of the number of Bulgarian students.

The emergence of this phenomenon is due to the current situation of European higher education development, and may be affected by the psychology of international students studying abroad. European rich higher education resources and high level of higher education quality make it more likely that international students from both countries choose European countries, especially developed European countries, as their destination countries for studying abroad. Since Europe promoted the Bologna Process, coupled with the construction of the European higher education area, international study in Europe has become more convenient under the support of a unified three-level degree setting and credit transfer system. The accession of Hungary and Bulgaria has opened up a policy path for foreign students to study freely in Europe.

5. Conclusion

Based on the research on the current situation and characteristics of higher education in Hungary and Bulgaria, the following issues are worth further discussion: (1) exploring the supplementary

role of private higher education institutions in the higher education system; (2) optimizing the allocation of higher education institutions in the region ; (3) balance strategy among the scale, quality and demand of higher education; (4) new model of international cooperation in higher education.

References

- [1] Kong, H.B. (2019) Some discrimination and analysis on current Central and Eastern European studies. *Russian, East European & Central Asian Studies*, 2, 50-60+156.
- [2] Daskalova, K. (2017) Developments in Bulgarian Education: from the Ottoman Empire to the Nation-State and beyond, 1800-1940s. *Espacio Tiempo Y Education*, 4, 1-29.
- [3] Hungarian Embassy in China. (2016) Hungarian state-recognized higher education institutions since July 1, 2016, [online] Available at: <<https://peking.mfa.gov.hu/zh/page/magyarorszag-allamilag-elismert-felsooktatasi-intezmenyei-2016-januar-1-tol>> [Accessed 7 January 2022].
- [4] National Evaluation and Accreditation Agency of Bulgaria. (2022) Higher Education Institutions, [online] Available at: <<https://www.neaa.government.bg/en/accredited-higher-education-institutions/higher-institutions>> [Accessed 15 May 2022].
- [5] Hungarian Central Statistical Office. (2021) Tertiary education, [online] Available at: <https://www.ksh.hu/stad_files/okt/en/okt0020.html> [Accessed 7 January 2022].
- [6] National Statistical Institute of Bulgaria. (2021) Students by educational-qualification degree and narrow field of education, [online] Available at: <<https://www.nsi.bg/en/content/3392/students-educational-qualification-degree-and-narrow-field-education>> [Accessed 7 January 2022].
- [7] National Statistical Institute of Bulgaria. (2021) Students in educational and scientific degree 'Doctor' by citizenship, mode of attendance and sex in the higher schools and scientific organisations by kind of ownership, [online] Available at: <<https://www.nsi.bg/en/content/3408/students-educational-and-scientific-degree-%E2%80%98doctor-%E2%80%99-citizenship-mode-attendance-and-sex-higher-schools-and-scientific-organisations-kind-ownership>> [Accessed 7 January 2022].
- [8] Institute for Statistics of UNESCO. (2020) Global Flow of Tertiary-Level Students, [online] Available at: <<http://uis.unesco.org/en/uis-student-flow#slideoutmenu>> [Accessed 8 January 2022].
- [9] National Statistical Institute of Bulgaria. (2021) Population by statistical regions, age, place of residence and sex, [online] Available at: <<https://www.nsi.bg/en/content/2977/population-statistical-regions-age-place-residence-and-sex>> [Accessed 12 January 2022].