

GLOBAL INEQUALITIES IN HIGHER EDUCATION: CHALLENGES AND DEVELOPMENT PERSPECTIVES

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Abstract: The process of globalization has erased borders for science and education, opening up more opportunities each year for studying abroad. Researcher mobility, participation in joint projects, and accessibility to research outcomes have generated numerous professional and ethical challenges. The aim of this paper is to use an analysis of relevant literature to critically highlight the reflections of globalization on the development of tertiary education, its accessibility, and the deepening of inequalities among countries. Improving the quality of higher education and establishing a transparent and inclusive system for building academic careers have been decades-long challenges that keep less developed countries on the periphery of the advanced educational space. The continuous process of creating conditions for inclusive, equitable, and high-quality higher education implies equipping students with new and applicable knowledge, skills, and values, particularly in the fields of science, technology, engineering, and mathematics (STEM), with an emphasis on learning outcomes and modernized study plans and programs. Numerous studies have confirmed that such an approach has a positive impact on economic growth, primarily through effects visible in increased employment rates, poverty reduction, and the rise of gross domestic product per capita.

Keywords: higher education, globalization, STEM fields, cost of studying, labor market

1. INTRODUCTION

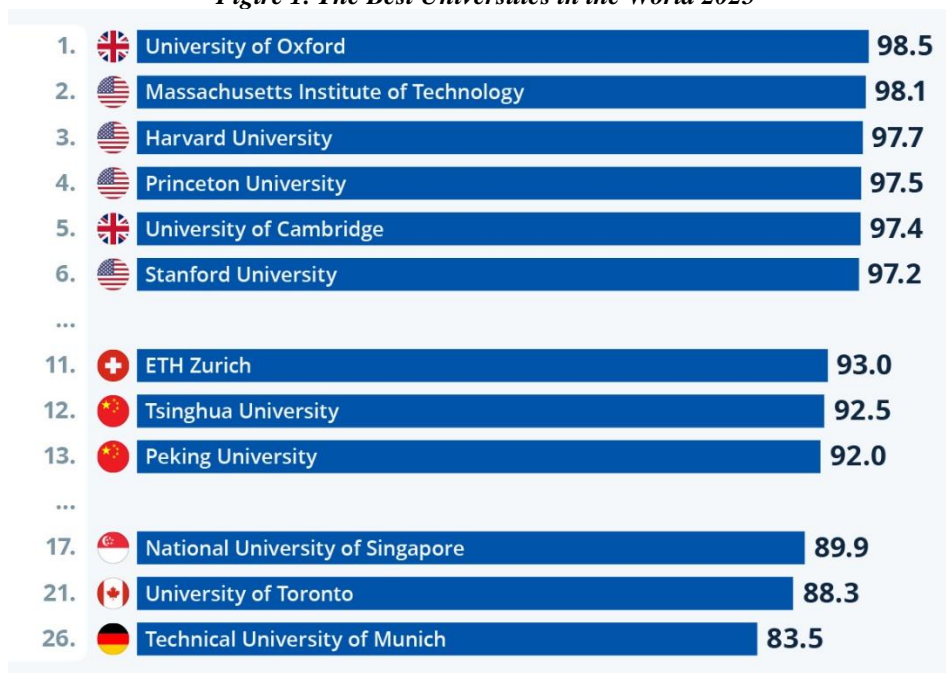
Over the past few decades, the gap between national higher education systems has widened: the most prestigious universities occupy a central position on the global higher education scene, owing their status to their dominant research and teaching functions, as well as to their prestigious reputations. Universities located in developed countries exert a disproportionately large influence on the development of international standards, using these positions to shape governance models within institutions and to establish approaches to teaching and the acquisition of new knowledge. (Munitlak Ivanović et al., 2015) Filijović et al. (2011) observe that knowledge, as a form of power, is unevenly distributed among countries, resulting in a situation where the most developed nations, through the application of knowledge, have created an imbalance — those who possess immense wealth and dominate the global economy, and the majority of humanity who continue to struggle with poverty and deprivation. The outflow of highly educated personnel and the commercialization of education further exacerbate the existing disparities between developed and underdeveloped countries.

Ensuring inclusive and quality education and promoting lifelong learning is one of the goals of the 2030 Agenda for Sustainable Development, adopted by the United Nations General Assembly (UN, 2015). However, it is already clear that these goals will not be achieved, despite the increasing university enrollment rates in developed countries. An analysis of higher education participation rates in 35 countries in South Asia and Sub-Saharan Africa, conducted by researchers at the University of Cambridge, revealed extremely low participation rates among individuals under the age of 35 in nearly all countries: below 10% in 31 countries and below 5% in 20 countries. Enrollment is generally lowest in Sub-Saharan Africa, where participation among youth is below 2% in countries such as Tanzania, Rwanda, Mozambique, Niger, and Malawi. (Havergal, 2016) Higher education institutions have always faced challenges in the process of internationalization, but little research has been conducted on the internationalization of higher education in less developed African countries, particularly those with low income levels. As key challenges to be addressed, Moshtari and Safarpour (2024) identify a lack of clear policies and guidelines, inefficiencies in the organizational structure of internationalization, infrastructural challenges, financial difficulties, a mismatch between available and required equipment, insufficient scientific skills and inadequate language competencies, cultural diversity, unreciprocated relations, and the emigration of qualified personnel abroad.

2. DEVELOPED VS. UNDERDEVELOPED: WHERE IS HIGHER EDUCATION GOING?

The British University of Oxford has held the top position among the world’s universities for the ninth consecutive year, based on rankings that evaluate performance across 18 indicators in five key areas: teaching, research environment, research quality, international outlook, and industry engagement (income/patents). Among the top 10 universities, in a competition of 2,092 ranked institutions, only universities from the United Kingdom and the United States are represented. Viewed more broadly, among the top 50 universities, only 20 institutions are from other countries, specifically from Switzerland, China, Singapore, Canada, Germany, Hong Kong, Australia, France, Belgium, and Japan.

Figure 1. The Best Universities in the World 2025

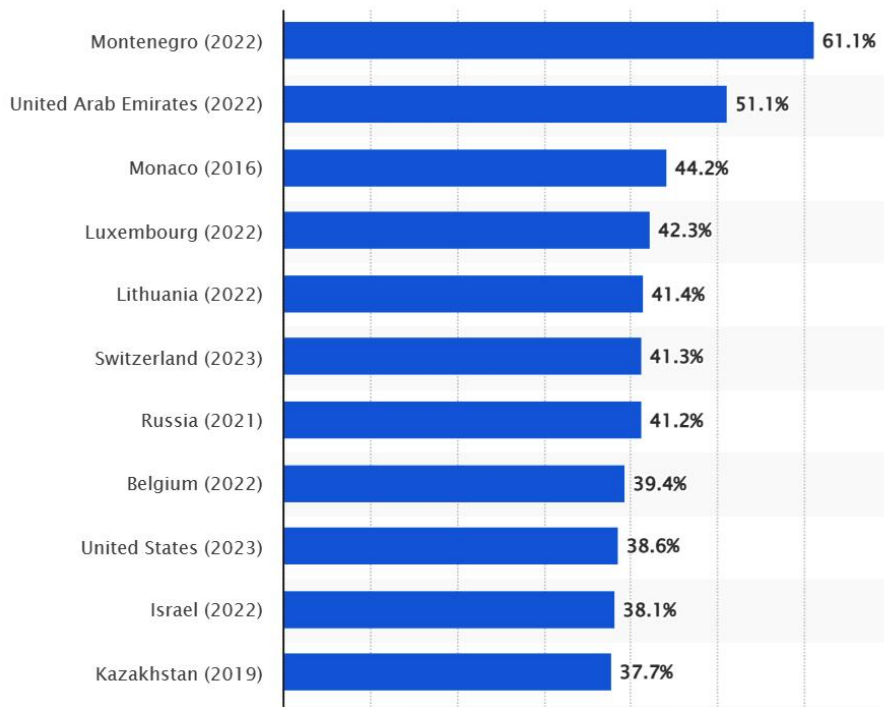


Source: Times Higher Education, 2025

The highest-ranked universities from **Serbia** are the University of Belgrade (1001–1200), the University of Kragujevac (1001–1200), and the University of Novi Sad (1500+); from **Croatia**, the University of Split (1201–1500), the University of Zagreb (1201–1500), and the University of Rijeka (1501+); from **Bulgaria**, the Medical University of Sofia (1201–1500), Sofia University (1500+), the Technical University of Sofia (1500+), and Trakia University (1500+); from **North Macedonia**, the Saints Cyril and Methodius University in Skopje (1500+); from **Montenegro**, the University of Montenegro (1501+); and from **Bosnia and Herzegovina**, the University of Sarajevo (1501+). (Times Higher Education, 2025)

Montenegro is the country with the highest cumulative share of the population aged 25 and older holding at least a bachelor's degree: 61.1% of the population has some form of higher education. It is followed by the United Arab Emirates with 51.1%. (Galan, 2025)

Figure 2. 20 countries worldwide with the highest share of population with at least a bachelor's degree as of 2023



Source: Galan, 2025

The average cost of studying in the 2024/25 academic year, which includes, in addition to tuition, housing costs at public four-year state higher education institutions in the USA was \$24,920, while at private institutions it amounted to \$58,600. (Korhonen, 2025) The average annual tuition fee in the United Kingdom for students from the EU is €11,489, and for students from other countries €15,409. Tuition for master's programs for international students ranges from €12,825 to €16,678. For EU citizens, studying in the Netherlands at all study levels costs €1,984, while students from other countries pay between €6,000 and €12,000; for master's and doctoral studies, the cost ranges from €8,000 to €20,000. In Italy, studying at public universities costs between €850 and €2,000 per year, and approximately €1,500 for doctoral studies. Studying in Norway is free for all study levels, with the exception of some specialized courses. (Koppert, 2016) China is a country that increasingly reflects high-quality educational values, with certain universities, such as Duke Kunshan University and Nanjing University, offering scholarship opportunities. The China Scholarship Council (CSC) is open to international students wishing to pursue studies in China. There are seven types of Confucius Institute scholarships available for international students aged 16 to 35 for undergraduate and postgraduate studies at Chinese universities; in addition to covering tuition and accommodation, the scholarships provide health insurance and a monthly living allowance. (Careergigo Immigration HUB, n.d.) Japan also offers opportunities for studying at women's universities, which make up 10% of all universities, emphasizing women's economic sustainability and a decades-long effort to close the gender gap in higher education.

In 2017, the relevant Ministry of Education, Culture, Sports, Science, and Technology instructed universities to develop three key policies: an admissions policy, a curriculum policy, and a diploma policy. These policies are linked to the program specification standards in the United Kingdom, which provide a concise overview of the intended learning outcomes in higher education, as well as how these outcomes are achieved and demonstrated (Sugino, 2023). Although the labor market highly values experts in STEM fields, the number of students enrolling in these courses remains low. The problem becomes even more pronounced when examining the representation of women in STEM disciplines. As a result, initiatives and programs aimed at reducing gender disparities are increasingly being launched around the world, recognizing that women have higher graduation rates than men in undergraduate programs. (Bustamante-Mora et al., 2024)

Women worldwide are underrepresented in STEM fields, and this underrepresentation is one of the main reasons why promoting women's enrollment in STEM disciplines is considered among the most prominent pathways to

achieving gender equality in higher education. In this context, Pilotti (2021) highlights examples from the Western world, where female students tend to achieve better academic results, i.e., higher school grades across subjects, even though standardized tests often show that male students outperform female students. An illustrative example is the Saudi Arabia, where evidence of gender differences tends to favor women both in standardized testing and in average high school grades.

3. PERSPECTIVES OF UNIVERSITY EDUCATION IN THE REPUBLIC OF SERBIA

In the territory of the Republic of Serbia, 246 higher education institutions and 3,920 study programs have been accredited. (NEAQA, 2025) In the 2024/2025 academic year, 26,335 students (55.3%) enrolled in the first year at state universities, 9,836 (20.7%) at private universities, 8,945 (18.8%) at state academies of applied studies and colleges, and 2,472 (5.2%) at private colleges. Observed by the method of study financing, for 48.3% of newly enrolled students the costs are covered by the state, while 51.7% are self-financed. (Statistical Office of the Republic of Serbia, 2024a) A total of 209,825 students are enrolled at state and private universities, along with 39,801 students at academies and colleges of applied studies. In terms of financing, 61.3% of students are self-financed, while the state covers the costs for 38.7% of them. (Statistical Office of the Republic of Serbia, 2024b)

Table 1. Annual amount of tuition fees at the faculties of the University of Belgrade (USD)

	Faculty of Organizational Sciences	Faculty of Medicine	School of Electrical Engineering	Faculty of Law
2014/2015	1.581-1.762	1.412	1.118-2.522	1.073
2016/2017	1.239-1.401	1.137	970-2.187	853
2018/2019	1.375-1.555	1.256	1.076-2.427	947
2020/2021	1.360-1.538	1.248	1.065-2.401	976

Source: Faculty Internet portals

In recent years, enrollment trends have shown a shift away from the social sciences toward STEM, ICT, and health disciplines: the share of students enrolled in STEM, ICT, and health studies increased from 41% in 2015 to 46% in 2020. The trends indicate that students are following the potential of studies for higher employability, better earnings, and opportunities to work abroad, leading to the conclusion that such trends are actually the result of aligning the elasticity of demand for higher education with existing and expected trends in national and global labor markets. (WBG & UNICEF, 2022) As of March 2025, the National Employment Service of the Republic of Serbia registered 155 unemployed individuals holding a PhD degree, of whom 89 were women; there were 378 unemployed individuals with a diploma from specialist academic studies, and 17,152 unemployed individuals with a master's academic degree. Additionally, 11,505 unemployed individuals held a bachelor's degree from basic academic studies, of whom 7,686 were women. (National Employment Service, 2025) The cost of education in the Republic of Serbia, from preschool age in 2000 to university graduation in 2018, amounted to approximately €34,000. The average total cost of educating a PhD graduate is around €55,000. Depending on the educational profile, the total cost of educating professionals who leave the Republic of Serbia in a single year ranges between €960 million and €1.2 billion. The annual loss in gross value added, resulting from the inability to prevent the yearly emigration of the population by employing them within the country, reaches €897.3 million, or 2.1% of Serbia's GDP in 2018. (Institute for Development and Innovation, n.d.)

In the 2014/15 school year, 86.8% of the total number of students studied at state institutions, while 13.2% attended private faculties and colleges. By the 2023/24 school year, this ratio had changed: 83.4% of students, both female and male, attended state faculties, while 16.6% attended private faculties. The trend of a higher number of female students compared to male students has become even more pronounced: in the 2014/15 school year, 55.8% of students were female, and in the 2023/24 school year, this figure rose to 59.1% (Statistical Office of the Republic of Serbia, 2024c).

Sančanin, Penjišević, and Stojanović (2024) emphasize that the partnership between educational institutions and businesses plays a crucial role in society, as it creates the necessary conditions for symbiosis between socio-economic actors and educational institutions. This symbiosis is founded on the joint creation and exchange of knowledge, the development of collaborative projects, the valorization of research, and the implementation of the principles of sustainable development and good governance. In this context, we should strive to build a knowledge society through innovative or new curricula that align with the dynamic and changing demands of the labor market.

The effort to bridge the gap between educational institutions and the labor market has been the subject of research by numerous scholars and practitioners, with a growing emphasis on the importance of developing competencies

essential for the 21st century. In this regard, higher education institutions are unequivocally expected to equip students with relevant, universally applicable competencies (Sančanin et al., 2024).

4. CONCLUSIONS

The United Nations Sustainable Development Goals for 2030, in the segment concerning equal access to universities, have been set overly ambitiously; the gap between developed (wealthy) and underdeveloped (poor) countries has widened even further, and the fact that access to higher education for women in some countries is below 0.1 percent is deeply disappointing. The depressing global picture of access to university education is further compounded by five countries - Burkina Faso, Liberia, Malawi, São Tomé and Príncipe, and Tanzania - where the number of poor youth enrolled in higher education is effectively zero. The tertiary level of education in the Republic of Serbia is characterized by a mismatch between the structure of graduates and the demands of the labor market, insufficient transparency in the availability of data, and pronounced inequality in the allocation of public funds, favoring state-founded faculties. A vulnerable and, in the long term, unsustainable higher education system is based on linear funding of state faculties, which provides desirable stability but consequently contributes to a lack of motivation for innovation, hinders the development of an entrepreneurial spirit within the higher education system, and prolongs the process of harmonization with the long-term needs of the labor market for qualified personnel. Furthermore, current trends highlight that the development and expansion of higher education is not being matched by the enrollment of students from lower-income and marginalized groups, seriously undermining the declarative promotion of inclusivity principles. This study encourages policymakers to launch new initiatives and develop more efficient strategies that could lead to a reduction in the enrollment gap in STEM fields at the tertiary level of education, through the adoption of good practices from sustainable and inclusive policies.

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