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POLAND'S HIGHER EDUCATION SYSTEM WITHIN THE CONTEXT OF INTERNATIONALIZATION

The article highlights key features of contemporary Poland's higher education system within the context of internationalization, which is viewed as the process of placing considerable emphases on international component of higher education system on all levels (primarily, on national and institutional levels). The research has been aimed to provide a brief overview of the economic situation in Poland that has allowed outlining of the main strengths and weaknesses in the key areas of the higher education, science and innovation system. As the result of the work a brief review of Poland's higher education and research systems within the context of internationalization process has been made with tentative orientations and actions to promote the internationalization of Polish science and innovation, mainstreaming internationalization in existing policies, programmes and institutions. As one of the working hypotheses the following statement has been outlined – the degree of the development of institutional policies for internationalization of national higher education institutions depends on the institutional culture of an institution, which in its turn is partly shaped by the influence of geographical location features – territorial boundaries with neighboring countries, as well as on the economic potential of the region of localization. Taking into account the concept of a common European higher education and research area for EU countries, the analysis has allowed to come to a conclusion that those higher education institutions that fully support the promotion of the international vector of their activities, both in the process of providing educational services and in research work, are highly competitive in the world of present-day higher education. As the result of reviewing a number of recommendations has been elaborated, which, upon consideration, might facilitate the circulation of foreign and national students (as well as internationalization at home to ensure that non-mobile students and staff will also benefit), secure adequate public investment to support the internationalization activities, and encourage public higher education institutions to put in place the necessary support mechanisms to increase their participation in international networks, including through better science-business links.

Key words: internationalization, higher education, research, Poland, international mobility, talent attraction.

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СИСТЕМА ВИЩОЇ ОСВІТИ ПОЛЬЩІ В КОНТЕКСТІ ІНТЕРНАЦІОНАЛІЗАЦІЇ

Стаття висвітлює основні особливості сучасної польської системи вищої освіти в контексті інтернаціоналізації, яка розглядається як процес приділення значної уваги міжнародному компоненту системи вищої освіти на всіх рівнях (насамперед на національному та інституційному рівнях) та як процес інтеграції міжнародного, міжкультурного чи глобального компонентів до мети, функцій чи процесу набуття вищої освіти. Дослідження має за мету надати короткий огляд економічної ситуації в Польській Республіці, який дав змогу окреслити ключові сильні та слабкі сторони у сфері вищої освіти, досліджень та інновацій. У процесі роботи було зроблено короткий огляд польської системи вищої освіти та досліджень у контексті інтернаціоналізації з орієнтованістю на процес інтернаціоналізації як маркер сприяння розвитку польської наукової та інноваційної сфер. Як робочу гіпотезу окреслено тезу щодо того, що ступінь розроблення інституціональної політики інтернаціоналізації національних закладів вищої освіти залежить від інституційної культури закладу, яка, у свою чергу, частково формується під впливом особливостей географічного положення – територіального межування із сусідніми країнами, а також щодо економічного потенціалу регіону локалізації. Враховуючи концепцію Європейського простору вищої освіти та суміжних для країн ЄС досліджень у галузі, аналіз дав змогу дійти висновку, що ті освітні установи, які підтримують інтеграцію міжнародного вектора діяльності в процесі надання освітніх послуг і здійснення дослідницької діяльності, є конкурентоспроможними на світовому ринку освітніх послуг. У результаті огляду було розроблено низку рекомендацій, які в разі запровадження можуть сприяти збільшенню показників мобільності іноземних і польських студентів (а також інтенсифікації «інтернаціоналізації вдома», яка априорі

гарантує, що немобільні студенти та співробітники також отримують переваги від процесу), забезпечити адекватне залучення державних інвестицій для підтримки діяльності з інтернаціоналізації та заохотити державні заклади вищої освіти створювати необхідні механізми підтримки з метою інтенсифікації їхньої участі в міжнародних мережах (консорціумах), зокрема, базуючись на ініціативі зв'язків між наукою та бізнесом.

Ключові слова: інтернаціоналізація, вища освіта, дослідження, Польща, міжнародна мобільність, залучення талантів.

Context of research. Poland is continuing its transition towards an open and globally competitive economy. It is aiming to reinforce its position on a European scale as a large and growing knowledge-based economy. An efficient higher education (HE) and science system is at the nexus of knowledge creation, education, innovation and economic growth. Despite past efforts to transform Poland's HE and science system, its performance and innovation outcomes remain sub-optimal. The government has therefore embarked on a new process of reform, the successful implementation of which is a prerequisite to achieving the country's goals. There are currently three guiding principles for the reform: 1) review the education and training of human capital and the career structures in Poland's HE and science sectors; 2) develop a lean legal framework for HE and research systems with a view to improve the institutional capacity for change, as well as strengthening autonomy and accountability; 3) ensure quality, relevance and critical mass in HE, science and innovation (Country Report Poland, 2017).

In February 2016, the Polish government adopted the Responsible Development Plan (*Morawiecki Plan*), a long-term economic development plan which identifies five major growth barriers for the Polish economy: – middle-income trap; – excessive reliance on external financing; – low innovative capacity of the economy; – demography; – weak institutions. The plan is elaborated in a more comprehensive Strategy for Responsible Development (*Strategia na rzecz Odpowiedzialnego Rozwoju*) adopted in February 2017. This strategy identifies the economy's limited capacity to innovate as one of major growth barriers in Poland. It includes a number of measures to overcome barriers to innovation and to make it easier to do business (Education at a Glance, 2016). Since the country's development, based on knowledge and the increasing competence of society, has no chance of success without effective science and HE sectors, the Strategy for Responsible Development puts a strong focus on the need to develop the HE and science sector in line with the three pillars of the Strategy for Higher Education and Science (i.e. Strategy for excellence in science, modern higher education, business partnership, and social responsibility of science) announced in September 2016 by the deputy prime minister and minister for science and higher education, Jaroslaw Gowin. The so-called Gowin's

Strategy for Science and Higher Education consists of three pillars: *Constitution for Science* (changes in the HE system by the forthcoming Law 2.0), *Innovations for the economy*; *Science for You* (societal impact of research; National Congress of Science).

The first pillar of the Gowin's Strategy – Constitution for Science – proposes a comprehensive reform of the HE and science system (the so-called *Law 2.0*) aimed at making the HE system more efficient, closer to the needs of society and the economy, and unlocking the research potential of the Polish universities (Projekt założeń, 2016). According to the initial vision of Law 2.02, presented to the PSF panel by the Polish authorities, this law will introduce a new approach to managing the HE sector by making it more autonomous and less bureaucratic, able to promote scientific excellence, open for interdisciplinary research, and open to the world. Measures announced include the introduction of new formulae for financing HEIs; a new evaluation system for HEI activities; introduction of three types of HEIs – research universities, research and teaching universities and teaching universities – and industrial (“implementation”) doctorates.

Theoretical research basis. As a theoretical basis of the present study we name the works on the aspectual research on internationalization of higher education in European countries (P. Aghion, L. Akers, G. Boulton, F. Hunter, L. Howard, E. Egron-Polak, H. de Wit; Ya. Bolubash, M. Debych, V. Kremen, I. Myhovich, A. Rzhavska, O. Spivakovsky, M. Stepko, etc.). Analytical reports of international education-related organizations (UNESCO, OECD, etc.) also constitute a significant part of research in this area. Within Polish context we name research conducted by three teams of Polish researchers – the first team led by Prof. Marek Kwiek (Adam Mickiewicz University in Poznań); the second team supervised by Prof. Hubert Izdebski (University of Social Sciences and Humanities); the third team led by Dr. Arkadiusz Radwan (Allerhand Institute). However, further research is needed to address the question of forming the institutional vector of internationalization of Polish national higher education system in the context of the activities of national HEIs.

Thus, the overall **aim of the article** is to make an up-to-date review of Poland's higher education and research systems within the context of

internationalization process based on the incentive of Poland's government to develop a broad-based internationalization strategy for Poland that sets out clear orientations and actions to promote the internationalization of Polish science and innovation, mainstreaming internationalization in existing policies, programmes and institutions. Such strategy should facilitate the circulation of foreign and national students (as well as *internationalization at home* to ensure that non-mobile students and staff will also benefit), secure adequate public investment to support the internationalization activities, and encourage public HEIs to put in place the necessary support mechanisms to increase their participation in international networks, including through better science-business links.

Body of the paper. Poland's HE, science and innovation can become successful only if they are closely linked to and embedded in international knowledge networks. This is because access to new knowledge, technologies and know-how generated and developed outside national borders plays a crucial role in successful innovation. With only 0,4 % of global research in country, Poland risks being left on the periphery of the global knowledge exchange structure if it does not prioritize participation in international networks (Peer Review, 2017). Poland needs to compete with other countries to attract and retain knowledge-intensive investments and talents in an increasingly globalized world. In order to address the modern challenges whose scale and scope extend beyond national borders it also needs to actively participate in international agenda-setting and coordinated actions. Thus, the paper focuses on the analysis of the key indicators which highlight the internationalization of HE and science in Poland: *internationally excellent science, international mobility and talent attraction, international research collaboration*. These indicators reflect the international culture within higher education institutions and other public research organizations.

Internationally excellent science. In research and innovation Poland underperforms compared to the EU average. This is manifested in Horizon 2020, the key funding programme for internationally excellent research, where Poland is a net payer: Poland receives only 0,9 % out of all funds granted by Horizon 2020 but contributes 3,03 % to the overall budget (Education at a Glance, 2017). The balance is especially skewed with respect to the European Research Council which supports excellence in frontier research in all fields. At the same time Poland is the biggest beneficiary of the European Union. In 2015, mainly due to the role of European Structural and Investment Funds,

the total EU spending in Poland amounted to EUR 13,358 billion, while the total Polish contribution to the EU budget reached just EUR 3,718 billion.

The lack of excellent science is manifested in Poland's limited visibility in global higher education rankings. For example, in the Shanghai-ranking of the world's 500 leading universities, only two institutions are listed in the category 401 to 500: the Jagiellonian University with 10.3 out of 100 points, and the University of Warsaw with 15.4 points. Five universities and PROs (AGH University of Sciences, University of Warsaw, Warsaw University of Technology, Jagiellonian University, and the Polish Academy of Sciences) show positive growth in output and citation impact, with performance matching the world average, but 64 % of Poland's active researchers have only published with an affiliation within Poland and two-thirds of Polish researchers show no signs of mobility (Kamalski et al., 2017). Only 5 % of Poland's publications are among the top-10 % most cited publications worldwide, compared to the EU average of 10.6 % (Education at a Glance, 2017). This means that about 95 % of Poland's publications do not appear among the top most cited publications in the world. Poland's Government has recognized this gap and aims to improve this situation by moving the scientific Poland has also one of the largest percentages of single author publications globally (Kamalski et al., 2017).

International mobility and talent attraction. International mobility of highly skilled individuals, from students to scientists, is a major driver of knowledge circulation worldwide and boosts excellent research outputs, scientific impact and international research collaboration. The mobility of advanced human capital is one of the most important factors for successful insertion into the global knowledge exchange system. Boulton G. & Lucas C. show that countries with high percentages of sedentary researchers belong to the periphery of the global knowledge exchange structure and need to strive to become active partners in the global brain circulation system (Boulton, 2008). ERASMUS+ has given a major boost to the international mobility of Polish students and staff, with Poland performing above the EU average. During the period 1998–2014, over 155,000 Polish students participated in ERASMUS programmes, while about 68,000 ERASMUS students came to Poland. Poland is also among top EU countries which extensively utilizes mobility opportunities for academic teachers under the ERASMUS+. In the years 2013–2014 Poland sent more university staff and faculty abroad than any other EU country (Erasmus+ Programme Annual Report, 2014) and

ranked fifth in the list of countries hosting teachers. While mobility has grown, an imbalance remains, with outward mobility exceeding inward mobility.

Poland features high mobility of doctorate holders in contrast to the rest of the EU, where significant outflows of PhD holders are usually linked to a higher-quality research and innovation system (Germany and Denmark). Interviews showed that the international mobility of Polish doctorate holders indicates higher career instability. The government and institutions could further encourage the mobility of PhD graduates (either in another university in Poland or abroad) for a couple of years after PhD graduation before they can be hired in the same university from which they graduated (Education at a Glance, 2016). It is important to continue efforts to change the academic culture and also take measures that ensure that the outflows are at least partly offset by inflows of doctorate holders. Talent attraction of foreign students and researchers could help enhance Poland's HE system. Foreign-born individuals are a substantial source of high-quality research and innovation in many countries.

Strong progress has been made in terms of international student numbers which have increased rapidly from approximately 10,000 international students in 2006 to 57,000 in 2016, making up about 4 % of the student population. More than half the international students (34,000) are from Ukraine, 8 % from Belorussia and 3 % from India. The security situation and Poland's long-term marketing efforts have pushed up the number of Ukrainian students, which doubled from 2013–2014. At the same time, Poland has made only limited progress in attracting foreign-born doctoral candidates or individuals with doctoral degrees. At 1.7 % Poland also has the lowest share of non-EU doctoral candidates, which stands in stark contrast with the EU average of 25 % (Education at a Glance, 2017). In the OECD comparison, the share of foreign-born doctorate holders in Poland is very low. Poland had the lowest share out of all 28 countries (for which data is available), while two-thirds of the other 28 countries grew their shares during the same period.

However, investing in the science base will not necessarily improve international attractiveness if other barriers remain. These may range from barriers in the labor market after the completion of a degree (including in the academic career system, habilitation, etc.) to social, legal and cultural factors, and language and visa requirements. A cause of concern is xenophobia. For instance, *Perspektywy Education Foundation* refers to concerns about *ukrainization* of universities and xenophobic incidents in academic

centers. In 2016, Poland's Prosecutor General reported an increase in the number of racially motivated hate crimes in higher education (Peer Review, 2017). While the Committee of Rectors has appealed to tackle the hate crime issue in a systematic way, there must be a clear message from the government to condemn these attacks or other hate crimes. While official data from the Ministry of Internal Affairs shows a reduction in xenophobic incidents between 2015 and 2016 from 974 to 851, the government at all levels, the academic community and civil society should develop solutions supporting integration of international students and researchers into the HE and science system and Polish society, and actively fight xenophobia wherever it emerges.

International research collaboration. In international research collaboration, Poland's performance shows also room for improvement. According to the EC Collaboration index for all scientific publications and co-publications between 2000 and 2011, Poland reached the third lowest score in the European Union, only marginally above Lithuania and – by a wider margin – Croatia (Peer Review, 2017). Poland's international scientific co-publications per million inhabitants grew from 173.6 in 2010 to 254 in 2016, at the level of Latvia, and above Bulgaria and Romania, but clearly lagging behind the EU average of 463. Furthermore, the EC analysis shows that Poland is the worst performing country in the EU in terms of international scientific publications as a percentage of total publications in the country and has not made progress in this measure since 2007. Researchers with international experience tend to have a higher scientific impact and publish in more prestigious journals, while international co-publications are generally more often cited. OECD data suggests that with a few exceptions, the “stayers”, i.e. those academics who do not change their affiliations, are more likely to publish in lower prestige journals (Education at a Glance, 2016).

Internationalization strategy. The previous Government introduced a programme aimed at increasing the competitiveness of Polish universities in the international market (2015) backed up with EUR 57.5 million to improve the education provision for international students, and encourage universities to seek international accreditations and attract foreign researchers to Poland through the creation of both international doctoral programmes and post-doctoral fellowships. The current Government has made plans to establish a National Agency for Academic Exchange (*Narodowa Agencja Wymiany Akademickiej, NAWA*) which has become operational by January 2018. NAWA will be responsible for

the international cooperation system to develop a systemic solution to mobility to and from Poland including scholarships and grants and will support universities in their internationalization efforts. These plans are commendable and provide a basis for the general opening of Poland's HE, science and innovation system. However, care should be taken to avoid a too narrow focus in the underpinning strategy. A positive development is that Poland has developed a draft for the national ERA Roadmap and plans to have it accepted by the government after the presentation of the draft Law 2.0. This will bring Poland in line with the rest of the EU member states. Internationalization is an element that needs to be mainstreamed in all HE and science systems rather than a compartmentalized action on mobility (Peer Review, 2017). One of the challenges is to ensure that mobility and internationalization benefits all students and staff, the majority of whom do not take part in mobility schemes. In this respect, the new plans to attract foreign teachers is very welcome as they can help internationalize the curriculum. An overarching national agenda for internationalization could help move forward. In Germany, a broad-based national internationalization strategy, which covers higher education, science and innovation, provides a strategic and coordinated approach to international cooperation and linkages.

Conclusions. International knowledge flows are critical for Poland as access to new knowledge, technologies and know-how generated and developed outside national borders plays a key role in innovation. Poland needs to actively participate in international HE, research and innovation networks. This requires an open approach to internationalization and embedding and mainstreaming it in all parts and functions of the system. Important aspects in this respect are: the circulation of foreign and national students and researchers, *internationalization at home* ensuring that non-mobile students also reap the benefits, R&D investment by the government, domestic and international firms, and research performed in Poland by internationally-oriented HEIs and PROs and domestic and foreign firms. In addition, it requires preparing for the changing global landscape of HE and innovation, and the open innovation models of business firms, which create new opportunities and challenges.

In order to improve internationalization in higher education and science, the following measures can be tentatively suggested:

- develop a broad-based internationalization strategy for Poland that sets out orientations and actions to promote internationalization and is

mainstreamed in existing policies and programmes. Such a strategy should provide top-down strategic orientation, while respecting bottom-up activities that will need to support a thriving HE, science and innovation system;

- as part of the wider internationalization strategy, develop an explicit national strategy targeted at EU research and innovation, given the growing weight and influence of EU funding in Poland's development;

- as the European Research Area will develop into an internal market for knowledge over time, develop a national ERA Roadmap along a set of European-wide priorities. In doing so, Poland could benefit from experiences in other countries that are working hard to make their systems more absorptive and resilient. In Horizon 2020, and the ERC in particular, Poland could follow the example of other countries in establishing specific measures in order to broaden the number of applicants and support the successful grantees;

- consider embedding internationalisation in the HE, science and innovation system through a multipronged action: Ensure that international peer review and evaluations are used at all levels including the evaluation of scientific outcomes, that international experience is a merit in academic career progress, that international publication is prioritized, that multilateral networks of research are fostered and that research groups are launched and led by foreigners to a much larger extent than so far. Where appropriate, make English the standard language for teaching and research;

- in collaboration with institutions, continue to develop an open, excellent and attractive HE and science system. While attracting long-term faculty and degree-students from outside Poland is a long-term challenge linked with the ongoing improvement in the quality of the higher education system and economic development, there is significant short-term potential to expand faculty and student exchanges and attract both Polish background and foreign-born scholars and scientists to Poland. Building higher participation in international exchanges should be a priority for the higher education system, with support from the government potentially in the form of faculty grants, student bursaries or financial incentives for institutions. In order to make better use of universities' role in hosting foreign talent, provide good conditions and infrastructure to attract top foreign researchers and students. Examine the successful international recruitment strategies of European countries and top universities as well as their internal support systems and social media campaigns in order to enhance

Poland's position in international competition for talent;

– encourage institutions to develop a comprehensive internationalization plan including internationalization at home, ensuring benefits for all students and staff, not only those who are internationally mobile. Encourage ways to internationalize the curricula, develop global citizenship skills and ensure that enhanced student and staff mobility will bring more diversity into Polish classrooms. Institutions should also develop programmes to support international engagement at the institutional level across different fields, to overcome the imbalances in engagement across study fields;

– encourage and support HEIs to develop more robust administrative offices or centers to support internationalization. These centers could be jointly organized with a group of institutions and/or in collaboration with the local/regional authorities. These centers responsible for supporting faculty and students completing exchanges, including assistance to visitors in establishing themselves in the country and transitioning into the Polish education system as well as more substantial support for international research collaboration including H2020;

– mobilize the Polish participants in ERASMUS+ and the Marie Skłodowska-Curie Actions of HORIZON 2020 (where Poland is relatively successful in comparison with excellence funding) as a potentially valuable pool of change agents. As

the agents of change are often young, open-minded, flexible and internationally mobile individuals, the participants in the EU mobility programmes should be encouraged to continue to share experiences with like-minded people from other parts of Europe or the rest of the world;

– in collaboration with the national authorities, HEIs and stakeholders, develop broad policies to internationalize Poland's labor market and education system. Facilitate the integration of international students and employees into the education and labor market. Improve the recognition of foreign diplomas and increase flexibility in employment contracts to enable recruitment from abroad. Continue and enhance talent attraction programmes. Develop a process to expedite the procedure for acquisition of visa and work contracts for foreign nationals who join the HE and science sector. Allow international students to work part time to facilitate their transition to the workforce and relax immigration policies to encourage international students to remain in Poland. Consider relaxing the Polish language policy requirements in education, science and labor market programmes;

– develop active measures in collaboration with the academic community and civil society to support integration of international students and researchers into the HE and science system and Polish society and address discrimination and xenophobia wherever it emerges.

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