

POLISH HIGHER EDUCATION SYSTEM IN EUROPEAN CONTEXT

Ewa Więcek-Janka¹

Abstract

The paper presents the results of the analysis of source materials concerning the Polish higher education system in the context of changes in Poland and Europe. It discusses the higher education system against the backdrop of primary and secondary education connected with the Bologna process. The paper features current legislative changes in Poland which led to the education system reform and to the change in the education system model. Moreover, the paper characterizes the dynamics of changes in the past twenty five years in public and private school systems in relation to the number of Polish and foreign students and emerging trends. It also reveals statistics about students in Poland in reference to gender groups in given study programmes and the ranking of popular study programmes in Poland. The considerations are summed up by the description of fields of study in the context of the unemployment market in Poland.

Key words: polish education system, polish high education system

El sistema educativo universitario. La práctica en Polonia

Resumen

La elaboración presenta los resultados de una consulta de literatura sobre el sistema de educación superior en Polonia en el contexto de los cambios en el país y en Europa. El artículo discute el sistema de educación superior en contra del sistema de primaria y secundaria, asociado con el sistema de Bolonia. Han determinado los cambios legislativos actuales en Polonia, que llevaron a la reforma del sistema de educación, lo que en consecuencia conduce a cambio del modelo del sistema educativo. Además, se presenta la dinámica de los cambios en los últimos veinticinco años en las escuelas públicas y privadas, debido al número de los estudiantes polacos y extranjeros junto con las tendencias. También, se muestra las estadísticas de los alumnos que estudian en Polonia, divididas por sexo entre los campos de estudio, y la clasificación de los campos de

¹ Poznan University of Technology, Faculty of Management Engineering.

estudio populares en Polonia. Las consideraciones resume la descripción de los campos de estudio en el contexto del mercado de desempleados en Polonia.

Palabras clave: sistema educativo polaco, sistema educativo polaco.

INTRODUCTION

Changes in the job market, affected, among other things, by visa-free travel in the European Union and the Bologna Process, influenced the reform of curricula so that their high quality could be ensured. The necessity to face changes and raise the teaching level in the European higher education has brought about the review of university management systems.

In Europe, the pivotal role in the management and coordination of solutions adopted in education is played by state authorities. With each year passing, the operation of universities is gradually being conditioned by external stakeholders. The present trend at universities is characterized by the departure from traditional academic self-governance and the adoption of new executive university management models.

At the EU level, the statement of 10 May 2016 calls upon member states to effect further modernization of European institutions of higher education to enhance their involvement in the implementation of the Lisbon Agenda for sustainable economic growth with more and better jobs. Member states are encouraged to free considerable resources existing in the EU which cover knowledge, talent and energy through instant, profound and coordinated changes including the ways of regulating solutions, managing higher education systems and managing universities.

One can easily observe in all Europe a need for the development of long-term plans and strategies pertaining to higher education. Most countries have already been enforcing or accepting political decisions which outline nations' strategic priorities whose role is to warrant a stable source of financing the higher education sector. Although the diversity of specific measures that are being taken is dependent on a given country, one can clearly notice a few shared medium-term aims (Higher Education Governance in Europe. Policies, structures funding and academic staff, p. 6):

- increasing the amount of public funds earmarked for higher education,
- granting universities more autonomy in the area of financial management,

- introducing a direct link between research-teaching results and the amount of allocated public funds,
- encouraging universities to diversify sources of funding and to create partnerships with research institutes, enterprises and local authorities. It seems that comprehensive strategies affect financial issues more than they affect the academic staff, which is rather the object of special reforms. The academic staff is also affected by solutions such as linking the amount of financial resources with the outcome of work. Priorities concerning the academic staff include:
 - placing emphasis on a more balanced structure of the staff regarding gender and age,
 - increasing autonomy related to managing the academic staff,
 - introducing the criteria of measuring work effectiveness.

The adopted measures at the higher education level were reflected in primary and secondary education. Over the past twenty six years two education reforms have been carried out in Poland. The first one was implemented in 1991 and amended in 1999. The second one is being introduced in 2017. Each of the reforms was signed into law.

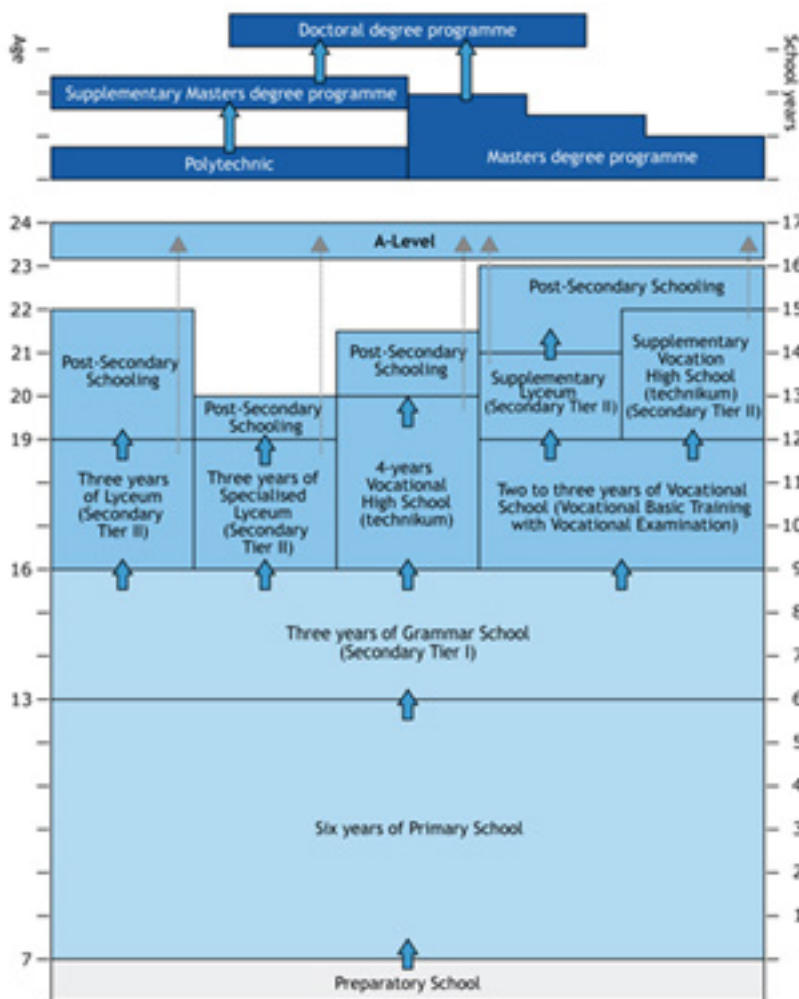
EDUCATIONAL SYSTEM IN POLAND

The function and organization of the education system in Poland is governed by the Act of 7 September 1991 (Journal of Laws 1991, No. 95, item 425), amended 8 years later (1999). Over the past 25 years the Polish education system has undergone numerous changes and reforms. Figure 1 shows education system after the reform of 1999 (figure 1).

Changes introduced in 1999 did not, however, concern higher education. Changes in the higher education system were introduced on the basis of the Bologna Declaration and authorised by the Act of 27 July 2005 (Journal of Laws 2005, No. 164, item 1365). The education system in Poland comprises pre-school institutions as well as primary, lower-secondary, upper-secondary and post-secondary non-tertiary schools. In the light of the existing law, institutions of higher education form a separate higher education system (Euridice Raport, 2014).

In 2016 the government of the Republic of Poland began work on changing the education system. In September 2016 new solutions which are similar to those prior to 1999 were proposed. The government plans, beginning in 2017, the introduction of 8-year primary schools and education at secondary level following three paths: 4-year high schools of general education (lyceum), 5-year technical high schools, trade schools – stage I

Figure 1. Model of the Polish education system after the reform of 1999.

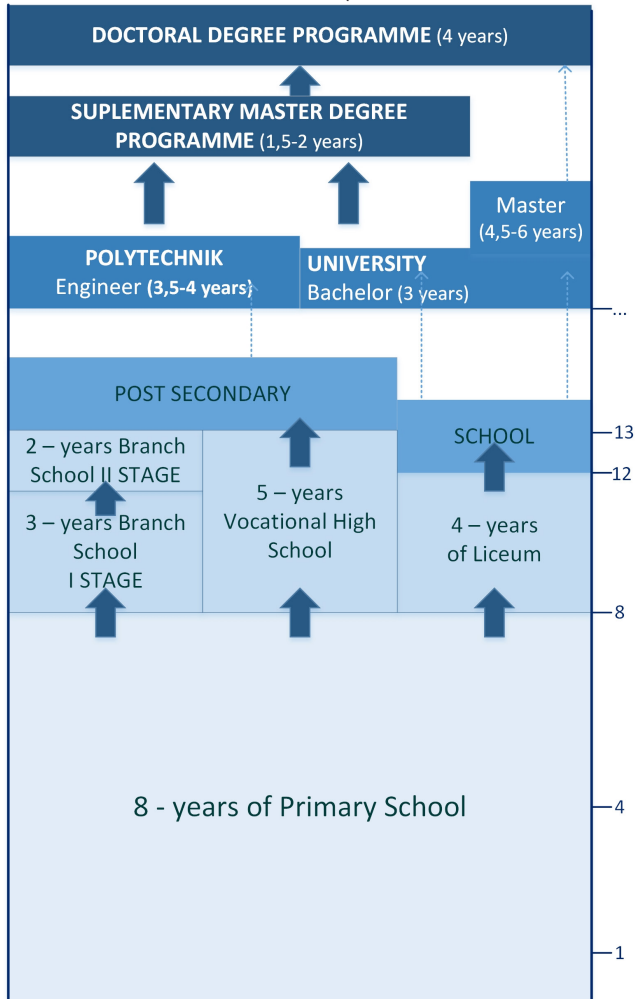


Source: <http://www.ioeb.de/en/bildungssystem-0>, 2012 [11.09.2016].

lasting three years (1 vocational qualification), stage II lasting 2 years (2/3 vocational qualification). Having completed full courses, students will be able to sit for high school leaving exams (*matura*), which will make it possible for them to continue learning at tertiary level. The system is to be introduced in 2017 and, after a few years of transition, in 2022 will cover all school-age students. The visualisation of the proposed changes in Poland is shown in figure 2.²

² Parliamentary work on a new law on the education system has started 14 .11. 2016. 30.11. 2016 was

Figure 2. Visualisation of changes in Polish education system (as for September 2016).



Elaboration by own.

THE STRUCTURE OF EDUCATION IN POLAND BETWEEN 2000-2016

Under the Constitution of the Republic of Poland every Polish citizen has the right to education. Education is free of charge in state schools. Only primary and junior high schools are compulsory. Parents or legal guardians who do not send their child to school are subject to be fined. Such a penalty is also imposed in the event of a child not fulfilling the duty to attend school

held and reading, 13.12. held the second reading of December 16, the Senate did not make amendments to the draft law.

until the age of 18 (Art. 70, section 1 of the Constitution of the Republic of Poland of 2 April 1997; Journal of Laws 1997, No. 78, item 483 as amended).

The Polish education system includes several educational levels and institutions:

1. **Kindergartens** – available for children at the age 3-6; Only the so-called “reception” class for children at the age of six is compulsory
2. **Schools:**
 - **Primary schools** – last 6 years and are divided into two three-year stages; I-III is early education where tuition is not split into separate subjects. All classes are run primarily by a particular group master. Pupils from years IV-VI learn separate subjects taught by particular teachers. At the end of primary school, the Central Examination Commission administers a test which verifies pupils’ knowledge and skills. The exam result, however, has no impact on whether pupils complete primary school and whether they are accepted by a particular junior high school.
 - **Junior high schools** – the reform of 1999 brought about changes in the education system in Poland and introduced a new type of school called junior high school for pupils at the age of 13-16. Junior high schools provide comprehensive education. At the end of junior high school there is an exam which consists of 3 parts: humanities, linguistics and science. The exam result is taken into consideration when applying to high school.
 - **High schools** – having completed junior high school, pupils who wish to go on learning can choose between:
 - **Basic vocational schools** – education lasts from 2 to 3 years and ends with taking a vocational exam and obtaining a diploma, which is the confirmation of acquired vocational qualifications.
 - **General or specialized high schools** – education lasts no more than three years. At the end of school pupils can sit for a high school leaving exam and obtain a certificate of high school education.
 - **Technical high schools** – last 4-5 years and offer an opportunity to take a high school leaving exam and obtain a diploma confirming acquired vocational qualifications.
 - Complementary high schools lasting two years or complementary technical high schools lasting three years – make it possible

- for pupils to sit for high school leaving exams.
- **Post-high schools** – take no longer than 2.5 years and end with an exam.
 - **Special schools** – for pupils with various disabilities. They confirm a given pupil is ready to start work.
 - **Higher schools** – will be discussed in the next point. **The higher education system** in Poland consists of three educational stages: first-cycle studies, second-cycle studies, third-cycle studies (Keeling, 2006).

CHARACTERISTICS OF HIGHER EDUCATION MARKET IN POLAND

The high attractiveness of European education has so far been based on linking together two fundamental missions: teaching and doing research (Kwiek, 2010). Such an approach to the operation of universities has been very strong in Europe, but not in other parts of the world, particularly in developing countries, which, over the past few decades, have significantly improved their education systems focused on teaching. As for these countries, research is almost exclusively conducted in a few selected elite institutions, mainly located in capital cities (Strehl, Reisinger & Kalatschan, 2006.) One should also note that 80% of all worldwide research is carried out in OECD countries (2003; 2006). Outside OECD countries, 55% of research is done by China so the rest of the world, excluding OECD countries and China, carries out less than 10% of all scientific research, cf. (OECD 2006).

Polish educational policy lacks so-understood division, though higher education development strategies are increasingly taking into account a diverse attitude to universities' primary tasks. In practice, we can already observe the process of concentrating funds earmarked for research (Kwiek, 2010).

According to analysts, competition in higher education will have increased radically in a few dimensions by 2020. The economy, along with the job market opportunities for university graduates, has been more and more based on competition. As a result of that, academic institutions most probably will have to intensify their focus on their own and their graduates' competitive edge as a key element of their mission. Universities, particularly those active nation-wide, will be assessed by the public and listed in national rankings showing how their graduates fare on the job market. Apart from that, they will also be listed in existing global and European rankings showing the results of their research work. Strong higher education will depend on competition (Huisman, & van der Wende, 2004; OECD/IMHE-HEFCE

2004; Komisja Europejska//EACEA/Eurydice, 2008; Kwiek, 2010).

The functioning of the higher education system is governed by the Higher Education Act of 27 July 2005. **The higher education system** in Poland consists of three educational stages (Journal of Law, Dz.U. z 2012 poz. 572; European Commission//EACEA/Eurydice, 2008; Huisman, & van der Wende, 2004):

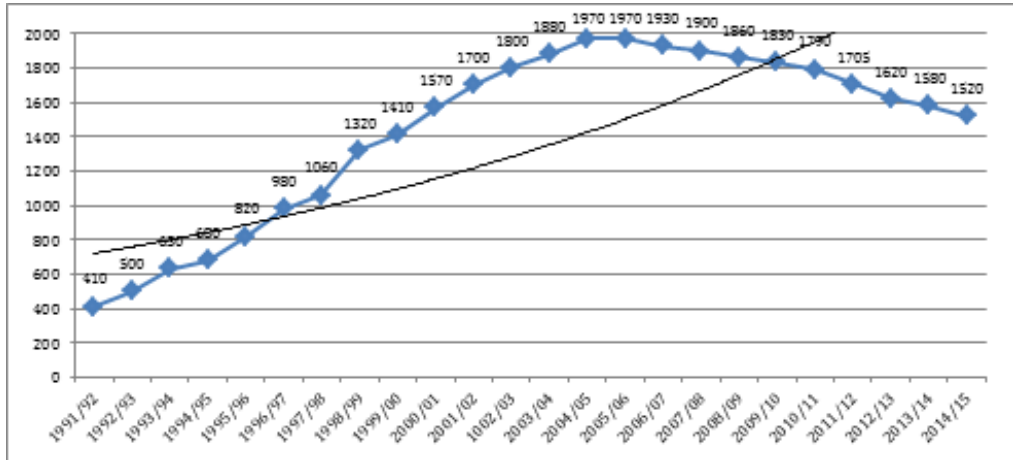
- first-cycle studies (engineering and Bachelor's studies),
- second-cycle studies (complementary Master's studies),
- third-cycle studies (doctoral studies).

Education at a particular level is provided to students who have completed studies at the lower level:

- first-cycle studies – prospective candidates are expected to have passed high-school leaving exams (possess maturity certificate); first-cycle studies usually last 3, 3.5 or 4 years; on completing the studies, undergraduates obtain the professional title of Bachelor, Engineer or a title relevant to a specified educational profile which is confirmed with a diploma; undergraduates can take up second-cycle studies;
- second-cycle studies – usually last 1.5 or 2 years; on completing the studies, graduates obtain the title of Master or a title relevant to a specified educational profile; graduates can take up doctoral studies (third-cycle studies);
- long-time Master's studies – last between 4.5 and 6 years; graduates obtain the title of Master or an equivalent degree depending on the profile; long-time Master's studies are a combination of first- and second-cycle studies;
- third-cycle studies – usually last 3 or 4 years; on completion, students obtain the academic degree of Doctor in a given field; prospective candidates have to possess the professional title of Master or equivalent.

PUBLIC AND NON-PUBLIC EDUCATION

The rise in popularity of studying has caused an increase over the past 25 years in the number of institutions of higher education. Along with an increased interest in studying for a higher education degree among high school leavers, there was also a rise in the number of public and non-public institutions of higher education. The structure of the number of students between 1991 and 2014 is shown in figure 3.

Figure 3. Number of students in Poland between 1990 and 2015

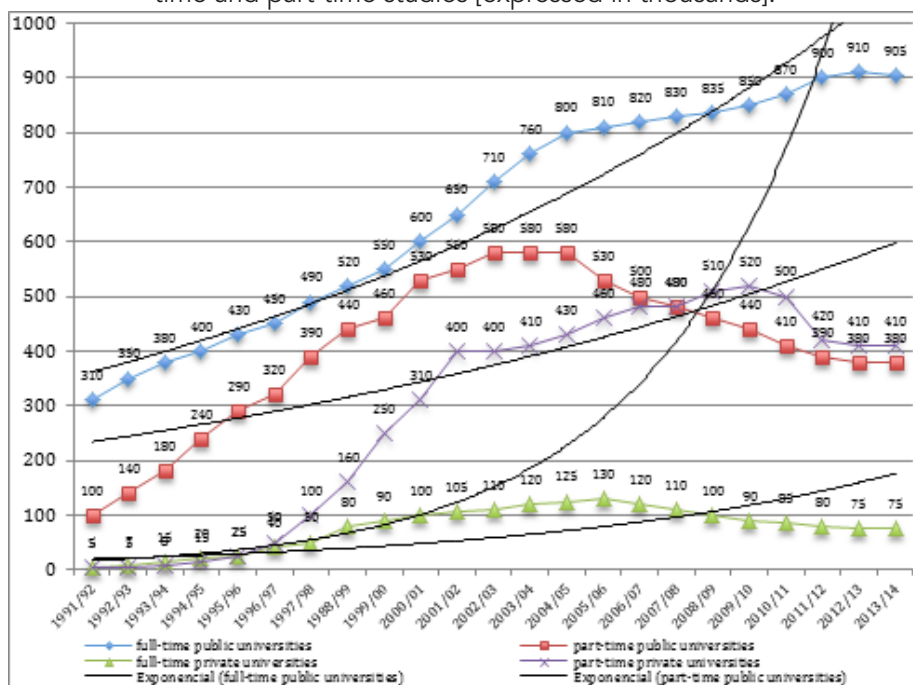
Increased interest in continuing education at the higher level is connected with changes in the higher education system and the adoption of the Bologna Declaration on 19 June 1999 (the changes are illustrated in the education system outline). The document contains tasks which aim at bringing higher education systems in Europe closer to each other. The main objective of the Bologna Declaration was to create the European Higher Education Area until 2010. The market's response to the change of rules was a marked rise in the number of students, which is illustrated in figure 4 and 5.

Demand for educational services in Poland progressed dynamically which translated into a regular development of both public schools, through the introduction of new fields to study and increasing the number of students, and non-public schools, which gained ever-growing popularity in the education market. The greatest development of higher education in Poland (as regards the number of students) took place between 2004 and 2006 for public institutions of higher education and between 2008 and 2009 for non-public institutions of higher education (figure 4).

The period between 2013 and 2015 recorded a decrease in the number of applicants to both public and non-public institutions of higher education.

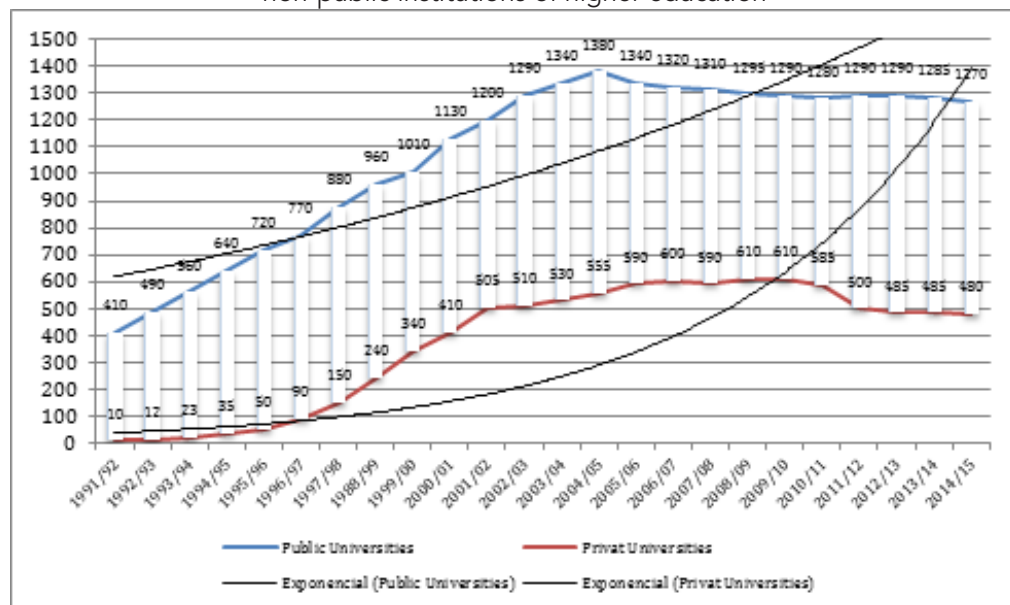
Such a phenomenon was caused by demographic changes which resulted in a lower number of candidates. In turn, people born during the baby boom are currently completing their university education. This situation is presented in the summaries below. The dynamics in the change of the number of students in public and non-public institutions of higher education are shown in figures 4 and 5.

Figure 4. Number of students in Poland between 1991 and 2014 covering full-time and part-time studies [expressed in thousands].



Source: data provided by the Central Statistical Office of Poland <http://stat.gov.pl>

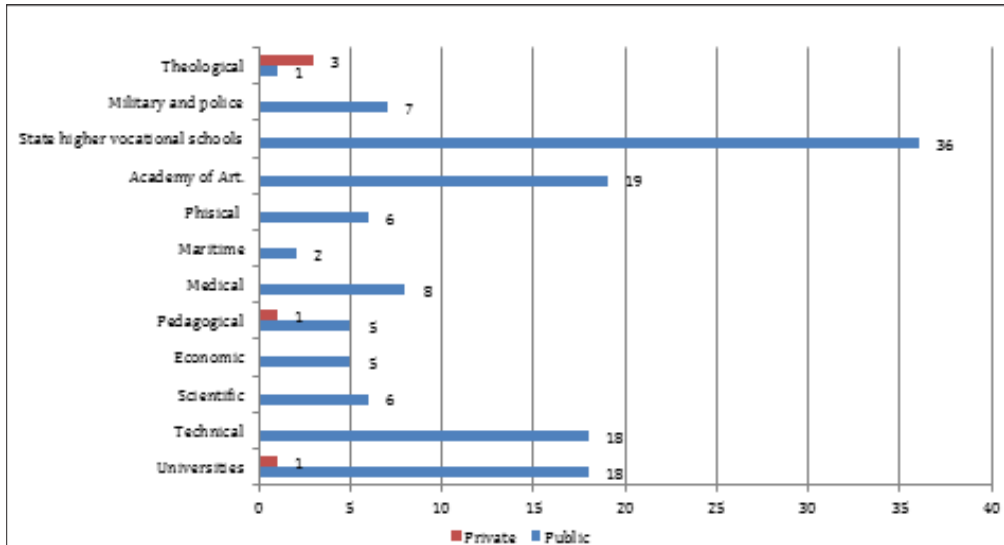
Figure 5. Number of students in Poland between 1991 and 2015 public and non-public institutions of higher education



The intensive development of higher education brought about changes in the approach towards prospective students. The supply approach changed into the demand approach. Institutions of higher education began to adjust their education offer to the job market requirements.

Currently, the market position of an institution of higher education is tied not only with the number of students but also with the level of research projects, internationalization, implementations, etc. The number of institutions of higher education offering particular educational profiles is shown in figure 6.

Figure 6. Number of public and non-public institutions of higher education according to educational profiles.

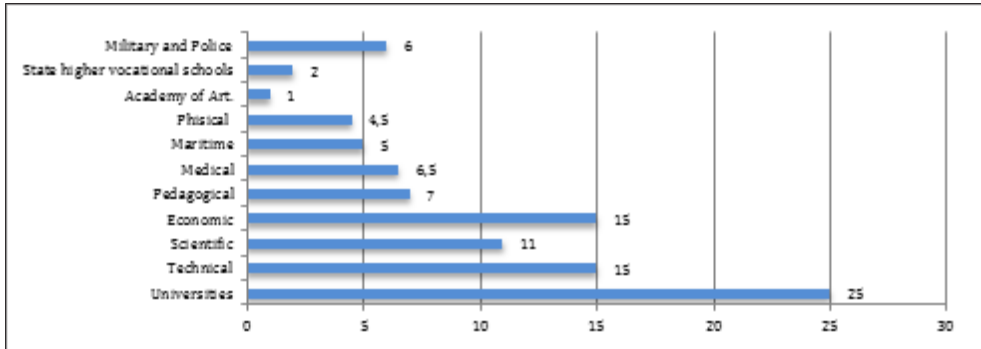


Source: data provided by the Central Statistical Office of Poland 2014, <http://www.stat.gov.pl>

State Higher Vocational Schools (PWSZ) enjoys significant popularity in Poland. Such a distribution of results points to an essential aspect of two factors, which are taken into account when choosing an institution of higher education. First, State Higher Vocational Schools enable to acquire vocational skills in first-cycle studies and most often cater for local and regional educational needs. Second, they run courses which make it possible to qualify in specific professions (figure 7).

The data of the Central Statistical Office of Poland for 2011 put the number of students at 1 764 060. In 2015 there were about 1 500 000 students. It is 6% less than was predicted by the Ministry of Science and Higher Education. The lower number of students is the result of the lower number

Figure 7. Medians of the number of students in public institutions of higher education according to their types in 2011, [number of students expressed in thousands].



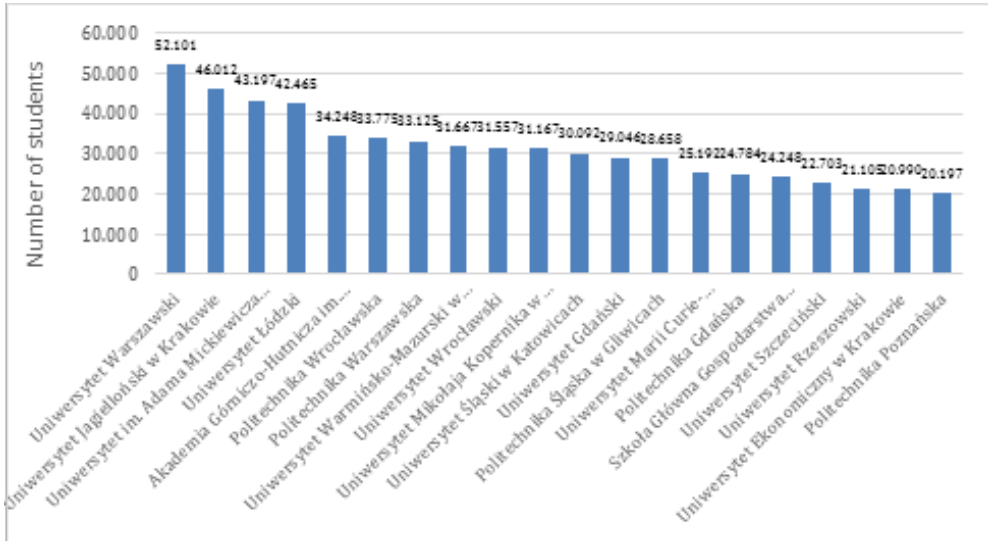
Source: Higher Education in Poland, <https://www.nauka.gov.pl/g2/oryginal/2013>.

of high school graduates. Over the past two years the number of applicants to institutions of higher education has dropped by almost one seventh. Young people are more and more frequently deciding to acquire practical skills to do specific jobs(nauka.gov.pl; stst.gov.pl). This is influenced by high unemployment rates among higher education graduates, particularly in humanities. High school leavers are guided by diverse reasons for which they choose a particular institution of higher education and a particular field of study. The number of students is shown in figure 7 by means of a median.

The presented results show a median, that is the central value of the average number of students in various institutions of higher education in Poland. It shows the factual number of students expressed in thousands in 2011. The first place is occupied by universities. Next come technical schools, schools of economics and schools of life sciences. Public institutions of higher education educate twice as many students as non-public institutions of higher education.

The biggest university in Poland as for the number of students is Warsaw University followed by the Jagiellonian University in Cracow and Adam Mickiewicz University in Poznan. The biggest technical institution of higher education in Poland as for the number of students is AGH University of Science and Technology in Cracow followed by Wroclaw University of Technology and Warsaw University of Technology. As far as economic institutions of higher education are concerned, the biggest one is Cracow University of Economics. Numbers of students in the biggest institutions of higher education in Poland are presented in figure 8.

Figure 8. Number of students in the biggest institutions of higher education in Poland in 2013.



Source: data provided by the Central Statistical Office of Poland, <http://www.stat.gov.pl>

Table 1. Distribution of students of various fields of study in Polish institutions on higher education according to gender

Education profile	Percentage of students in a sub-group in 2013	
	Females	Males
Pedagogical	76%	24%
Humanities	69%	31%
Artistic	68%	32%
Social	66%	33%
Economic and administrative	58%	42%
Legal	57%	43%
Journalism and information	66%	34%
Biological	67%	33%
Physical	58%	42%
Mathematical and statistical	58%	42%

Education profile	Percentage of students in a sub-group in 2013	
	IT	12%
Medical	78%	22%
Social care	85%	15%
Engineering-technical	21%	79%
Production and processing	44%	56%
Architecture and civil engineering	38%	62%
Agricultural, forestry and fisheries	46%	54%
Veterinary	73%	27%
Services for people	69%	31%
Environmental protection	45%	55%
Transport services	20%	80%
Protection and security	41%	59%
TOTAL	55%	45%

Source: nauka.gov.pl/g2/oryginal/2013

Education profiles in higher education have their own specific character, which can be observed analyzing the gender of students choosing a particular field. Medical and social care fields of study are chosen by 5 times as many females as males. A reverse tendency can be observed looking at IT-related fields of study where there are 8 times as many males as females. As far as transport services are concerned, the ratio is 4:1. Table 2 contains the percentage of students in relation to the education profile and gender.

Table 2. The most popular fields of study according to the general number of candidates.

Fields	2010	2011	2012	2013	2014
Management	37743	28608	27579	21623	19158
Pedagogy	30414	25839	20215	16227	13443
Law	26943	24581	24985	21787	20418

Fields	2010	2011	2012	2013	2014
Civil engineering	30944	29888	24969	18926	15982
Computing	25435	27625	30639	31782	30309
Economics	24539	21523	20202	17090	16061
Administration	19255	15592	14869	13356	11722
Psychology	19921	15562	15621	14059	14700
Tourism and recreation	15339	13587	13493	11116	10947
Environmental engineering	19370	19330	18973	16664	10095
Finance and accounting	19997	19998	17642	16275	15014
Production management and engineering	16806	16662	17654	17234	13295
Automatic control and robotics	14207	14252	15815	17062	14914
Mechanics and mechanical engineering	15192	15868	17209	18294	15178
Land management	13087	14779	16854	12690	10327

Source: data provided by the Central Statistical Office of Poland, <http://www.stat.gov.pl>

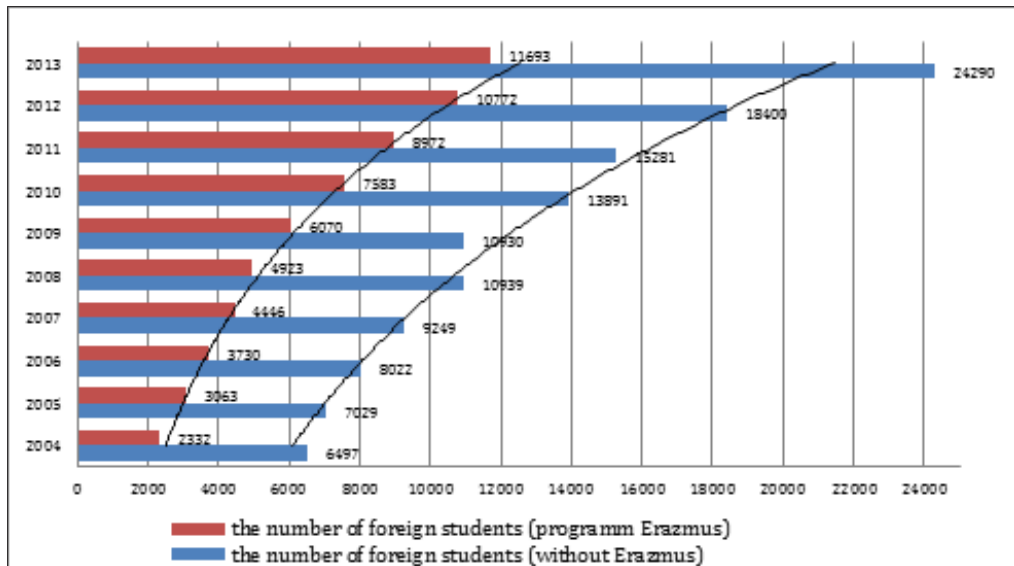
Changes in the education market can be observed by analyzing data from the last few years. One can notice the influence of the job market and employers on the demand for specific competences acquired by higher education graduates. Over the past four years demand for competences related to environmental management and engineering has dropped as many as two times. One can observe the constant level of demand for specialists in mechanics and mechanical engineering, automatic control and robotics. The only branch recording an increase in demand is computing. The results are summarized in table 2.

FOREIGN STUDENTS IN POLAND

Interest in studying in Poland changed along with the change in Poland's image in the international arena. 2004 (the year of Poland's accession to the EU) saw the arrival of 8,829 students wishing to study in Poland and

in 2013 the number stood at 46,000 students. It can be observed that a fair share of foreign students is made up by Erasmus+ students. It is one of the most popular student exchange programs. The number of Erasmus+ students coming to Poland increased from 2,332 in 2004 to over 11,000 in 2013.

Figure 9. Number of foreign students in Poland between 2004 and 2011.



Source: <https://nauka.gov.pl>

The most numerous group of foreign students in Poland is made up by Ukrainian citizens. In 2011 there were 6,321 students from Ukraine. Other countries represented by students coming to study in Poland include Belarus, Norway, Spain or Sweden. There are also students from the USA, Canada, China or Taiwan.

CONCLUSIONS

The essence of tertiary level education is to broaden mental horizons and equip young people with competences sought after on the job market (Zechlin, 2008). Analyzing data related to the unemployment level in groups of various educational status, one may conclude that there is a problem in Poland with adjusting the educational offer to the requirements of the job market, which is shown in table 3.

Figure 10. Share of students of Polish origin among foreigners studying in Poland [expressed in thousands]. Source: <http://nauka.gov.pl/g2/oryginal/2013>

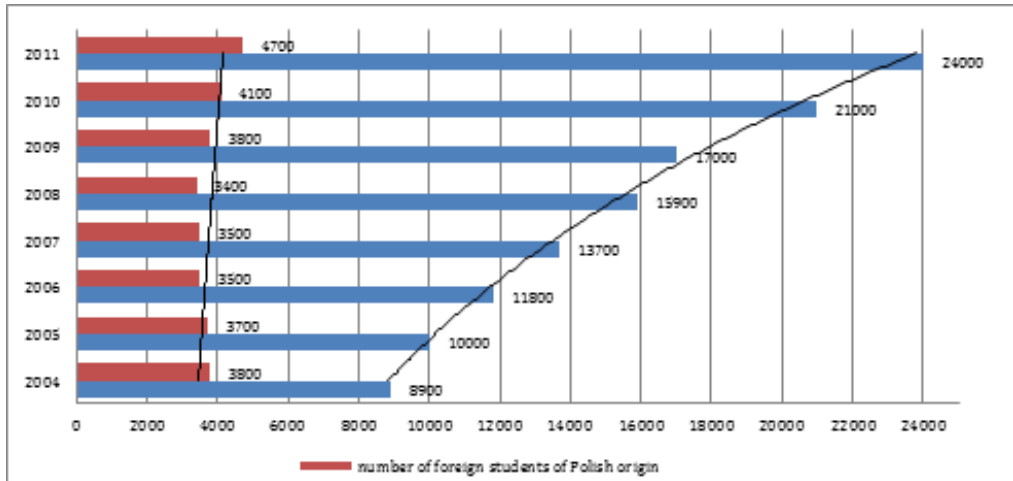


Table 3. Share of graduates in particular fields of study among the unemployed, employed and professionally inactive.

	Education	Humanities and arts	Social sciences, economics, law	Science	Health and social care	The technique, industry, building	Agriculture	Services
Employed	12	7	28	9	6	11	2	3
Unemployed	12	6	34	7	4	9	2	4
Non-active	14	9	28	6	4	10	4	4
% unemployed/ % employed	1,1	0,9	1,2	0,8	0,6	0,8	1,1	1,5
N	1741	992	4207	1245	816	1581	358	441

Source: BKL – Badanie Ludności 2010-2014 <http://www.uj.edu.pl//documents/102715934/2e0bba6c-e1e6-4248-8a4e-443f8573fca0>

In the light of the job market related research, one can observe that the highest level of unemployment is recorded in the area of services, where competences acquired in various fields of study are made use of. A particular attention is also paid to social, economic and legal sciences in which professionally active people make up a low percentage in the analyzed group with such competences.

One can also notice that secondary education has been more and more effective in dealing with such an adjustment, partly because of extensive research in this area carried out for decades in Poland (cf. Programme: Czas Zawodowców (Time of Professionals), Doradca Zawodowy (Professional Adviser) and others). It is to be hoped that measures being taken to introduce changes in higher education will translate into offering graduates jobs in which they are trained at tertiary level.

REFERENCES

- Constitution of the Republic of Poland of 2, April 1997, art. 70.
<http://eduentuzjasci.pl/badanie/126-informacje/arttykul/233-raport-o-stanie-edukacji-2010.html> [10.10.2016]
<http://srpq.gr/polski-system-oswiaty.html> [23.11.2016]
<http://stat.gov.pl> [23.09.2016]
<http://www.ioeb.de/en/bildungssystem-0> [11.09.2016]
<https://nauka.gov.pl> [23.09.2016].
Journal of Law: Dz. U. Z 2005r. Nr 164, poz. 1365;
Journal of Law: Dz.U. 1991 nr 95 poz. 425;
Journal of Law: Dz.U. z 2012 poz. 572
Journal of Law: Dz.U.z 1997r. Nr78 poz.483 as amended.
Keeling, R. (2006). The Bologna Process and the Lisbon agenda: the European Commission's expanding role in higher education discourse. *European Journal of Education*, 41(2), p. 203-223. DOI: 10.1111/j.1465-3435.2006.00256.x
Kwiek, M. (2010). Zarządzanie polskim szkolnictwem wyższym w kontekście transformacji zarządzania w szkolnictwie wyższym w Europie [Management of Polish high school education in transformation in European management context]. CPP RPS, vol. 15.
Report: European Commission, EACEA, Euridice (2014). Key Data on Early Childhood Education and Care in Europe – 2014 Edition. Euridice Report. Luksemburg: Office of UE Publication.
Report: Higher Education Governance in Europe. Policies, structures funding and academic staff (Euridice Report). Warsaw: Foundation for the Development of the Education System. DOI: 10.2766/29900
Report: Młodzi na rynku pracy, pracownicy, przedsiębiorcy, bezrobotni [Young people in the labor market, workers, entrepreneurs, unemployed] (2015). Warszawa: PARP <http://www.uj.edu.pl/documents/102715934/2e0bba6c-e1e6-4248-8a4e-443f8573fca0>

- Report: OECD (2003). Changing Patterns of Governance in Higher Education. OECD Publication Office.
- Report: OECD/IMHE-HEFCE (2004). Raport z projektu dot. zarządzania finansowego i zarządzania uczelniami [The report of the project on. Financial management and management universities]. On the edge: securing a sustainable future for higher education. OECD Publication Office.
- Strehl, F., Reisinger, S. & Kalatschan, M. (2006). Funding Systems and their Effects on Higher Education Systems. OECD Publishing. OECD Education Working Papers, vol. 6.
- Zechlin, L. (2008). Strategic Planning in Higher Education in: International Encyclopedia of Education, ed. III, Amsterdam: Elsevier.