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PROBLEMS AND PROSPECTS OF ACADEMIC CARREERS IN POLAND

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SUMMARY

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INTRODUCTION

The uniqueness of the Polish system of academic careers has much to do with the country's long and often turbulent history, which influenced the evolution of its higher education institutions.

Therefore, to permit a better understanding of the present situation of higher education institutions, we consider it necessary to begin our paper with a short presentation of their historical background. We describe the main turning points of this evolution, starting from the creation of the first Polish university in the 14th century in Cracow. Next, we put primary emphasis on the recent period, from the Second World War up to the end of the communist governance system in 1989. We present the main features of the evolution of Polish higher education and academic career models during the last 25 years of the post-communist period. During this period, the development of higher education institutions was influenced by four interdependent factors. The first one was a significant demographic growth of the population of young people with secondary education expecting social and economic promotion that a higher education diploma could ensure them. The second was the introduction of market economy and a dynamic development of the private sector, which created new jobs for better educated people. The third was the possibility offered by a liberal democracy to create private higher education institutions, permitting to enlarge the offer of

higher education without big public investments in this sector. Last but not least was the European integration, which has led to a progressive modification of the existing model of national higher education and academic career models in view of conforming them to European standards. All of these factors have influenced the evolution of the academic career model, based on the hierarchy of scientific grades and their relations with a corresponding hierarchy of positions and functions in the scientific research and higher education institutions.

In the last chapter we present recent trends and prospects of further development of Polish research and academic institutions and their scientific staff, taking also into account the problems and consequences of the adoption of European standards in the specific context of Polish socio-economic and cultural constraints.

1. A SHORT HISTORY OF POLISH ACADEMIC AND HIGHER EDUCATION SYSTEMS

1.1. From the first Polish Kingdom to the Second Polish Republic (1364 – 1944)

The history of Polish academic institutions began in Cracow, the former capital city of the Polish Kingdom, with the establishment of the Jagiellonian University in 1364. It was the first university in Poland and the second in Europe, after its original model, the University of Bologna. The next Polish university, the Stefan Batory University, was created in 1579 in Wilno (now Lithuanian Vilnius), situated at that time in the united Polish-Lithuanian Commonwealth. The next two Polish universities were created in the 17th century – the University of Poznan in 1611, and the Jan Casimir University of Lwow (now Ukrainian Lviv) in 1661.

In 1795, Poland lost its independence for the next 123 years, and its territory was split into 3 parts incorporated into the invading empires of Russia, Austro-Hungary and Prussia. Each of them had its specific system of higher education and model of academic careers. The next Polish university was created in 1816 in Warsaw, the Polish capital city from the 17th century until the present day. At the moment of the founding of the university,

the capital city was situated in the semi-independent "Congress Poland" (1815-1930)[2]. It was created in the part of Poland conquered by Russians and ruled by a Russian prince as its king. After the fall of an uprising against Russian domination in November 1830, this part of Poland was completely integrated into the Russian empire and the University of Warsaw was closed by Russian authorities.

32 years later, however, in 1862, a Polish-speaking Warsaw Main School was created, playing a *de facto* role of an university, with 4 faculties. It was closed once again a few years later (in 1869) after the definitive fall of the next Polish uprising against Russian occupation, started in January 1863.

In 1918, after the First World War, Poland recovered its independence and all of the abovementioned universities found themselves in the independent Second Polish Republic[3]. Between 1918 and 1939, eight other public and four private higher education institutions were established in Poland. Their organisation was based on the common principles and common academic career model defined by the Law on Academic Schools adopted in 1920. Another Polish university, the Catholic University of Lublin, was created in 1918 by the decision of the Apostolic See, with a unique status based on the model of the *Gregorianum*, a Catholic university in Rome. The status and organisation of all other higher education institutions were based mainly on the liberal German model, distinguishing between academic and professional schools of higher education. This distinction is maintained until now. Only the former were supposed to conduct research activities and were authorised to award doctoral degrees and professorial titles. They enjoyed freedoms of both teaching and research and had extensive autonomy of their internal organisation and management. However, in 1933, their autonomy was significantly reduced by the new Law, which gave stronger supervisory competences to the governmental authority responsible for this field (then the Ministry of Confessions and Public Education).

[2] Created during the Congress of Vienna after the fall of Napoleon's empire. Its predecessor, the Duchy of Warsaw, was created in 1807.

[3] The official name of the independent Polish Kingdom was "Republic of Poland" because Polish kings were elected by all members of the large noble society. Therefore, when after the World War I Poland recovered its independence, it was considered as the Second Republic.

During the Second World War**,** Poland was once again attacked, occupied and split between fascist Germany and communist Soviet Union. Under the German occupation, all higher education institutions were closed. In the part occupied by the Soviet Union, they continued to exist, but lost their national Polish character. In both instances, academic staff suffered very heavy losses. At the very beginning of the German occupation, on 6 November 1939, German authorities organised a special action under the name of "Sonderaktion Krakau." They arrested and deported 183 Jagiellonian University professors to concentration camps. Forty other eminent Polish professors of the Lwow University were shot dead by Germans in 1941. Many of their colleagues from other Polish universities died in captivity as war prisoners or in German concentration camps. Many more died soon after their liberation at the end of the war. It is not widely known, moreover, that some Polish professors held as war prisoners on the western front in France, together with their French colleagues, organised university studies in their prisoners camp. They delivered higher education diplomas that were recognised after the war both by French and Polish authorities[4] (Georges Langrod, 1946, L. Boulet, 1980, p. 465).

In the Polish territory under German occupation, only the lowest level of professional education was admitted for Polish citizens. However, under the cover of professional schools, the authorities of the Polish underground state organised and conducted clandestine general secondary and higher education studies.

In the part of Poland later occupied by the Soviet Union, a number of Polish professors and other scientific staff members were incorporated into the Polish army at the beginning of the war. At the onset of the Soviet occupation, they were made war prisoners and executed with other Polish officers in 1940 on Stalin's order in the infamous Katyn Forest and other similar places. Many others lost their lives in various Soviet "gulags". Moreover, when Poland fell to the Soviet sphere of influence at the end of the war, a number of Polish professors who had fought in the Polish army as a part of the western anti-German coalition

[4] In the German camp for war prisoners "Oflag XVII A" in Edelbach in Austria, a Polish professor, Georges Langrod from the Cracow University, and his French colleagues, created a French University that had a Law Faculty especially for Polish war prisoners, cf. Law Faculty for the Polish officers, war prisoners in the Edelbach camp, 1940-1945, Ed. Science and Art, Warsaw – Wroclaw, 1946, (in Polish).

did not come back from exile. Others returned home but fled communist Poland soon after the war.

1.2 Polish scientific research and higher education system in post-war communist Polish People's Republic (1945-1989)

a) Reconstruction and development of higher education and scientific research institutions

During the war, Polish academia lost a big part of its scientific staff and infrastructure. Moreover, two of its oldest and most important universities found themselves outside of its new borders. One of the oldest Polish universities, the Stefan Batory University of Wilno, became the Lithuanian University of Vilnius. The Jan Casimir University of Lwow became the Ukrainian University of Lviv. However, almost all of the surviving staff (not only scientific but also administrative and auxiliary personnel) were repatriated within the new Polish frontiers. They moved from Wilno to the newly created Nicolas Copernicus University in Torun, and from Lwow to Wroclaw (former German Breslau), newly incorporated into Poland. In Wroclaw, the Polish University replaced its German predecessor, funded in 1811 by the Prussian King Frederick William III. Five other new universities were also created in other regional centres. Many other higher education institutions (medical, agricultural, pedagogical, technical, sports, cultural, military, etc.) were also created in different regional centres and placed under the authority of the ministries responsible for different fields of their specialisation.

Concerning Polish scientific research institutions, the first one, the Polish Academy of Arts and Sciences, was founded in 1872 in Cracow, in the part of Poland incorporated into the Austro-Hungarian Empire. During the Stalinist period, in 1952, it was merged with the Polish Academy of Sciences established in 1951 in Warsaw. It was never formally dissolved and was reactivated again after the fall of the communist regime in 1989. Many other specialised scientific research and R&D institutions were created and attached to different ministries. Up to the end of the communist period, all academic and research institutions were public, except for the Catholic University of Lublin (only such case in the whole communist bloc). Even this university, however, was obliged to respect the rules of general legislation in this domain, and was placed under the supervision of the Ministry in charge of higher education.

All of these institutions were functioning under the administrative control of the central government and under close political control of the Communist Party. They were subject to central and local committees; each institution was also supervised by an internal Party committee. These committees were supervising the political correctness of the functioning of the universities, their program contents, the political behaviour of their staff, and their external relations – especially their scientific cooperation with the Western world. This control was particularly important and had the most negative impact on the teaching and scientific research activities in the most politically sensitive fields of social, economic and human sciences. After Stalin's death, however, the Polish government conducted a more liberal policy in this domain, allowing for the development of academic institutions' relations and exchange programs with the Western world. A more liberal policy was also applied to student organisations. Poland was the only communist country to have authorised the creation of the Students Association of Friends of United Nations, which became a national section and an active member of the International Student Movement for the United Nations.

b) Post-war organization of higher education and scientific research institutions

In the post-war period, higher education at all academic levels continued in the same form as before the war, being five years in duration and sanctioned by a Master's degree. Starting from the early sixties, however, new professional study programs were added that lasted three years and delivered their courses during the weekends (2 weekends per month). They were initially created in two fields: pedagogic education and public administration. These programs were designed mainly for the staff of communist party committees, police, army, public administration and public enterprises. These staff did not have higher education, but they were promoted, for political reasons, for jobs normally requiring a higher education diploma. Taking into account the big demand for this form of higher education, many university faculties created these new types of programs. These programs were delivered not only in their main campuses, but also in local branches opened specifically for this purpose in certain other cities of the same region. These decentralised teaching activities were enabled by academic staff who resided in the town of the institution's main campus and went to the branch locations only to deliver their courses. This process created a greater demand for academic staff. Since it wasn't possible to increase their number rapidly, this situation generated a new type of academic mobility, which consisted in working simultaneously for several higher education institutions situated in different locations. This mobility necessarily

had a negative impact on the research activities of the scientific staff obliged to travel and overburdened with teaching in two or more academic institutions.

Meanwhile, only a Master's degree was formally recognised as a full higher education diploma; the diplomas of these three-year professional part time studies were not[5]. A growing number of those holding these professional diplomas, who wanted to keep their jobs formally requiring full higher education, boosted demand for a Master's level program offered in the form of part-time professional studies. Such programs were created a few years later, offering a Master's degree upon successful completion of two years of supplementary studies. Progressively, this form of education was extended to other fields, creating a *de facto* parallel system with two levels of higher education. Initially, this two-level structure of higher education was introduced only in certain disciplines, in which the three-year programs were already offered. They were progressively extended to certain other disciplines, and even to mainstream university programs. From the very beginning, however, certain disciplines of higher education were, and remain up to now, excluded from this two-level system. This exception applies in the faculties of Law, Psychology, Theology and Canon Law as well as Medical and Veterinary studies. These new types of higher education programs contributed to the creation of a number of local branches of academic institutions in smaller towns, where no higher education institutions had ever existed before.

Despite these innovations, access to higher education and the percentage of people with a higher education diploma were not improving very rapidly. This was due to the limited development capacities of existing public higher education institutions, and more particularly, of their scientific staff. The primary reason for a rather slow expansion of access was financial. In the socialist system, higher education was free of charge, and the State budget could not afford a significant growth of expenses on higher education – neither for the necessary infrastructure and equipment, nor for the personnel. The second reason for limited higher education access was a limited number of scientific and teaching staff, who

[5] Until now, in the Polish Civil Service system, a Bachelor's degree is not recognized as a diploma of full higher education required for access to the category A reserved for civil servants with a higher education diploma.

could be recruited and paid only within the legal and financial constraints of public employment.

This situation did have some advantages, however. One such advantage was a selective recruitment of students based on entry exams. In the case of more popular programs and more renowned faculties, it was not unusual for 20 or even more candidates to compete for one place. In the political and social context of this period, selection was not always fully fair, but a significant majority of admitted candidates was selected on merit-based criteria. The limited number of selected students enabled a high level of their aptitude. Moreover, selection continued during their studies in order to ensure a good quality of those who were able to graduate. Another positive aspect of this system was that, given a limited number of graduates, nearly all of them could find jobs corresponding to their academic training, even if for political and personal reasons they did not always have equal opportunities to get a job of their choice.

C) Scientific career paths and academic functions

The scientific career path inherited from pre-war Poland was maintained in the communist period with few alterations, keeping the same hierarchy of functions and the same scientific degrees required to be entitled to occupy them. A higher education institution was composed of faculties placed under the authority of an elected Dean, assisted by two or more Vice-Deans[6] (one for teaching and the other for scientific matters). Each faculty was divided into specialised institutes, chairs and smaller specialised units (*zakład)*. The institutes and chairs were headed by Full Professors and a *zakład* by at least an Associate Professor with the Habilitatus degree (*doktor habilitowany*).

Each head of a chair or institute built his or her own team, choosing a staff of Assistant Professors (*asystenci*) with Master's degrees and Associate Professors (*adiunkci*) with doctoral degrees from among his or her own students, who wrote their Master's or doctoral theses under his or her guidance.

We shall also mention the function of the scholarship system here. There were three kinds of scholarships. The first one was of a need-based character and was reserved for people

[6] The number of Vice-Deans varied depending on faculty.

with low family incomes. The second type, called a "funded scholarship", was offered by different public institutions to beneficiaries who were later obliged to work in the finding institution for at least three years after the completion of their studies. The third type of scholarship, which interests us here more specifically, was called a "scientific scholarship" and was awarded to the best students expected to pursue a scientific career at the admitting institution. At the end of their studies, the beneficiaries of these scholarships started their careers as assistants employed in the chair in which they had prepared their Master's degree.

Appointment for scientific management functions (head of chair or *zakład*) was reserved for academics having at least an autonomous position of a *docent* (equivalent but not equal to an Associate Professor). Appointments to *docent* positions were considered politically sensitive. In the situation of a growing number of students and a small number of autonomous scientific staff, the national authorities adopted the practice of exceptional promotion for their political allies with only a doctoral degree. This policy was pursued especially during the period of Stalinist persecutions from 1949 to 1955, when a number of professors were barred from teaching because they were considered ideologically incorrect and/or politically unsure. A similar situation happened in March of 1968, when student protests against censorship and demanding a more liberal cultural policy were brutally repressed by the police. These protests were supported by the more liberal and courageous among the academic staff, who were persecuted and often barred from teaching for this reason. In 1968, this coincided with anti-Semitic purges within the communist establishment and in the academia. Political authorities pushed a number of academic staff with Jewish origins to leave the country and emigrate to Israel or other Western countries (mainly West Germany, France and USA, but also Australia and South Africa). Their departure created an urgent need for their replacements. Vacant positions were filled by promoting a number of politically correct holders of doctoral degrees who were communist party members. They were promoted to the position of a *docent*, normally requiring a Habilitatus degree[7]. The newly promoted docents without these degrees were commonly and disdainfully called "March docents".

[7] The docent position was suppressed first in the Polish Academy of Sciences in 2010 (Law of 30.04.2010 reforming the organisation of the system of Sciences O.J. 2010 no. 96 pos. 620) and the next year also in higher education institutions (Law modifying the Law on higher education and on degrees and scientific title (O.J. 2011, no. 84 pos. 455).

An important feature of scientific staff career development in the communist period was the internal and non-competitive selection of academic staff by the chair or head of a *zakład*. It had two main reasons. The first one is related to the traditional model of academic career development, based on master-apprentice-journeyman relations, similar to the old craftsmen's model (without, of course, the journeyman tradition of travelling abroad before becoming a master). The other reasons for non-competitive selection were related to the difficulty of moving to another town caused by widespread housing problems and limited possibilities of a scientific apprenticeship abroad, especially to the other side of the "iron curtain," due to political constraints.

d) Subsidiary and autonomous positions of academic staff in Polish higher education and research institutions

The positions of academic staff in the post-war socialist Poland fell in one of two main categories: subsidiary or autonomous. Subsidiary positions included those of Assistant Professors (*asystenci*), Senior Assistant Professors (*starsi asystenci*) and Associate Professors (*adiunkci).* The Assistant positions required a Master's degree, and the function of an Associate Professor (*adiunkt)* – a doctoral degree. Doctoral degrees were granted by the decision of an entitled Faculty Council, made on the basis of a thesis and upon a personal presentation of the findings followed by a public debate. The bearers of subsidiary academic functions (Assistant and Senior Assistant Professors) had the obligation to conduct research activities in view of obtaining doctoral degrees and after that – Doctor Habilitatus degrees. Obtaining these successive degrees was the condition of a further academic career.

Another group of subsidiary academic functions was composed of Lecturers (*wykładowcy*) and Senior Lecturers (*starsi wykładowcy*). They did not have any formal obligation of engaging in research activity; their role was to conduct lectures and teach practical courses. They were drawn from two different groups. The first group consisted of Senior Lecturers – former Senior Assistant Professors (*starsi asystenci*) and Associate Professors (*adiunkci*) who did not manage to acquire doctoral and Doctor Habilitatus degrees, respectively, in the prescribed time limits (8 years for each degree). The second group of Senior Lecturers was comprised of practitioners who enriched academic programs with their professional experience and gave their lectures on a contractual basis. Some of these

practitioners were simultaneously preparing their doctoral or Doctor Habilitatus dissertations on an individual basis.

Autonomous scientific positions included a Docent (*docent*), requiring a Doctor Habilitatus degree, University Professor (*professor nadzwyczajny*) and Full Professor (*professor zwyczajny*). The positions of University Professor and Full Professor of a public academic institution always required corresponding scientific titles. They were granted by the decision of an institution's Senate by the recommendation of the Faculty Council concerned, after independent review by designated professors from other academic institutions.

Professor titles were granted by the State Council (collegial Head of State at that time, replaced in 1997 by the President of the Republic) at the recommendation of the Central Commission in charge of Scientific Degrees and Titles.

2. POLISH ACADEMIC AND HIGHER EDUCATION INSTITUTIONS AND THEIR SCIENTIFIC STAFF AFTER THE FALL OF THE COMMUNIST REGIME

2.1. Development of higher education institutions in a new political and economic context

The bloodless fall of the communist regime in Poland at the end of 1989 initiated a rapid development of higher education. Growth of the sector was due to objective demographic reasons, but also to growing demand of young people and their parents for a higher education diploma. Satisfying this demand was partly enabled by the opening of the legal possibility to create private institutions of higher education.

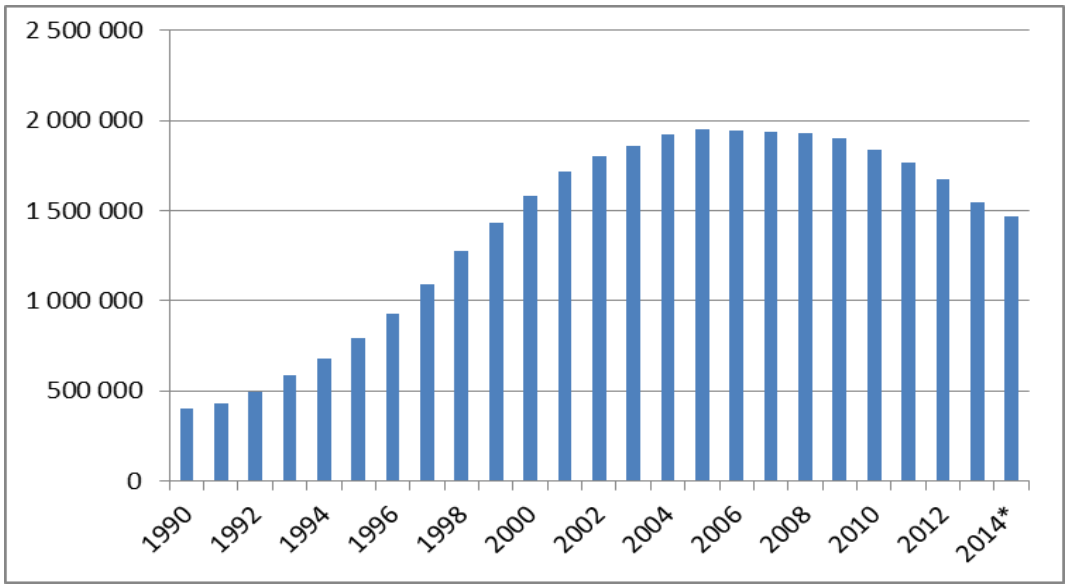
The restoration of a democratic system in 1990 was accompanied by a deep economic transformation, introducing and developing a liberal model of the national economy. Poland also entered the path of economic, social and political integration with the Western world in general, and the European Union in particular. During the first decade after the fall of the communist system, we could observe a superposition of several processes: a change of the political system, a progressive collapse of the socialist economy, and the development of a market economy.

These processes were accompanied by a demographic boom that engendered growing unemployment of young people, but also magnified the urgency for educated people to adapt themselves to the changing rules of a market economy. The generation of the post-war demographic explosion perceived higher education as a chance for improving their social status, as well as for a better placement on the employment market. Pursuing higher education was also perceived as a way to wait out the period of fundamental change in the economic system, with its inevitable rise in unemployment. But, most of all, higher education was providing a chance for strongly desired upward mobility, which was paradoxically very limited during the period of socialist "Polish People's Republic".

Enormous pressure on higher education was accompanied by a restriction of public spending. In this situation, the education of a drastically growing number of students was possible mainly through the creation of numerous private institutions of higher education. A solution adopted by the public institutions was to maintain and develop traditional, but henceforth tuition-based, part-time programs offered during the weekends (every two weekends). Private higher education institutions began to grow in number since 1991. In 2008, for the total number of 456 higher education institutions, there were 131 public universities and other public schools of higher education and 325 private higher education providers (data of the Main Statistical Office). The creation of new private higher education establishments was possible mainly thanks to the employment of scientific staff already working in public universities and other scientific research institutions. Of course, it was easier and faster to create a new higher education institution than to form new academic staff. Nevertheless, the number of academics was growing, too. In 1990, there were 61,000 academic staff in higher education institutions. Fifteen years later, in 2005, the peak year of the higher education boom, there were already almost 95,000. That number was steadily growing, reaching the peak of 100,151 academic staff in 2010. It is easy to perceive the consequences of this relatively slow development of academic staff for the quality of rapidly growing academic program. In 1990, 61,000 academic staff were teaching 400,000 students. In 2005, 95,000 academic staff were teaching almost 2,000,000 students. It was possible only because a number of academics were teaching simultaneously in several higher education institutions. Such a heavy teaching load could not leave them a lot of time for their research activities.

In fact, during the period from 1990 to 2008, the number of students almost quintupled, going from 404,000 to exactly 1,953,832.

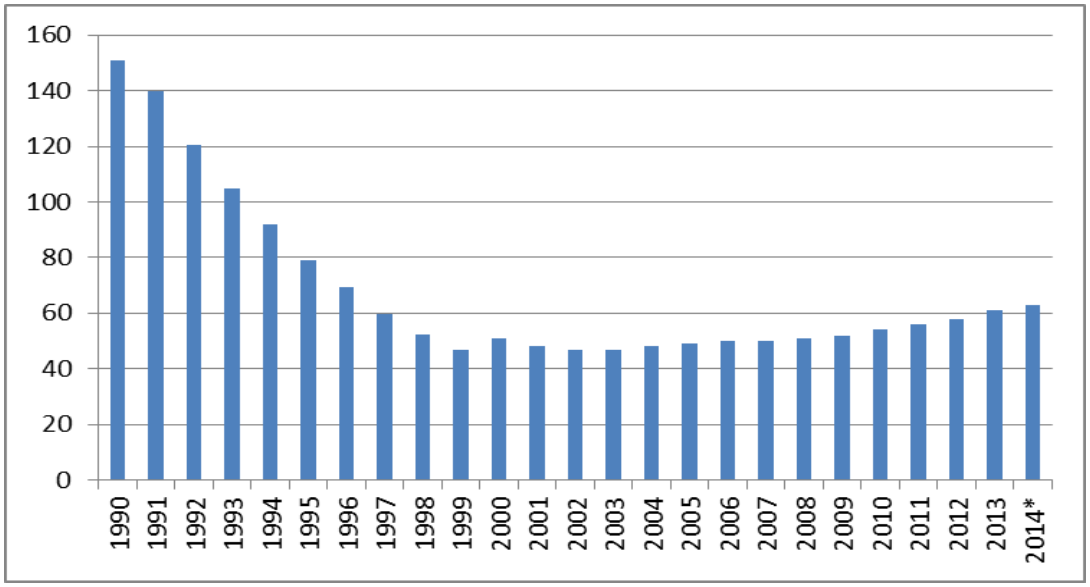
Table 1. Evolution of the number of students in Poland from 1990 to 2014



Source: Authors' own compilation based on the Main Statistical Office (MSO) yearbooks "Schools of Higher Education and their Finances"

Since 2005, the number of students has been diminishing, which is due mainly to a progressive demographic slowdown, but also to a decreasing popularity of higher education studies. A university diploma ceased to be considered a sure warrant for the future or a secure path to a motivating level of remuneration. In 2014, there were 1,469,386 students in Poland, taught by 93,133 academic staff. Since 2008, the number of academic staff per 1000 students has been systematically growing (cf. table 2). In 2002-2003, at the top of the educational boom, there were 47 academic staff per 1000 students. In 2014, there were already 63 per 1000 students. It should also be remembered, however, that in 1990 this indicator was 151 academic staff for 1000 students.

Table 2. Number of academic teachers for 1000 students



Source : Own compilation based on statistical annuals of the MSO ”Schools of higher education and their finances”

In this situation, a lot of new schools of higher education sprung up rapidly in the private sector. Public academic institutions also started to develop tuition-based study programs designed mainly but not exclusively for working people. The public higher education institutions were motivated to develop these programs by the possibility of earning supplementary resources necessary for the development of their institutional capacities and for the remuneration of their academic staff. Tuition-based programs permitted them to maintain their academic staff in a competitive market of higher education institutions, and to have some supplementary, extra-budgetary resources for their institutional investments and maintenance. Another reason for public universities to offer tuition-based programs was that only they had a sufficient number of highly competent scientific staff required by law for the state authorisation to offer Master’s level programs. Even until now, only very few private institutions of higher education fulfil these requirements and therefore few are authorised to offer Master’s degree programs.

A rapidly growing number of mostly private higher education institutions was creating a growing demand for academic staff. Low level of public financing of public higher

education institutions (both for teaching and research), very heavy teaching loads for academic teachers and a progressive implementation of the Bologna Process have all strongly influenced the model and dynamics of scientific career development in Poland.

First of all, the high demand for academic staff has generated the development of a new form of doctoral studies. Earlier practice was based on individual guidance and promotion by a professor, generally the head of a chair, of their young assistants. Some external candidates working outside of the university were also promoted, but mainly among the former participants of the professor's Master's degree seminar. This preparation could take the form of formal doctoral degree seminars, but it was not compulsory and certain candidates were also guided by their scientific masters on an individual basis. The new system of formal doctoral studies, considered henceforth as the third level of formal higher education, was introduced in 2003[8] as an outcrop of European integration. Even now, however, formal doctoral study programs are not considered a compulsory path to obtain a doctorate. Doctoral programs can only be offered by authorised higher education institutions fulfilling the legal requirements concerning the number of so called "autonomous academic staff" (Professors and Doctors Habilitatus).

The development of this third level of higher education programs had certain unexpected and dysfunctional consequences for the employment structure of higher education institutions authorised to conduct these programs. First, it has contributed to a drastic reduction of the number of Assistant Professors (*asystenci*) and Senior Assistant Professors (*starsi asystenci*), who were formerly at the base of the scientific hierarchy. Since the development of third level programs, the tasks of these junior academics can be fulfilled less expensively by the participants of doctoral programs, permitting institutions to reduce their personnel expenses budget. Secondly, the decrease in the number of junior positions leads institutions to maintain, on a contractual basis, a number of retired professors, who are necessary to fulfil the legal requirements for state authorisation to conduct the second level Master's degree and the third level doctoral studies. This phenomenon is particularly striking in the case of private higher education institutions, which do not have the same restrictions

[8] Law of 13 March 2003 on scientific degrees and scientific title in arts modified by the Law of 18 March 2011 the Law on higher education, the Law on scientific degrees and scientific title in arts.

as public institutions concerning the employment of academic staff who have already attained the age of retirement (70 years of age for Professors).

2.2. The present system of academic careers in Polish scientific and higher education institutions

The present model of academic career development in Poland is complicated, formalistic and long. It has two parallel paths – the first is for scientific positions and the second for other posts and functions occupied in academic and research institutions.

The first path of academic advancement is based on acquiring successive scientific degrees of a Doctor and Doctor Habilitatus, which are granted by an authorised Faculty Council, and a title of Professor granted by the President of the Republic. Principles regulating the procedure of acquisition of scientific positions are contained in the Law on scientific degrees and the scientific title of 2003[9]. The two doctoral degrees and the Professor's title can be acquired by anybody who meets the criteria, and their acquisition is independent of the academic position of the person concerned. This Law defines the conditions that must be fulfilled by an academic unit in order to obtain the right to grant a specific scientific degree or title. The Law also specifies the conditions that must be fulfilled by a candidate in order to obtain a given degree. The majority (63%) of scientific staff in Poland attain full research autonomy (a Doctor Habilitatus degree) after the age of 45 (Prawelska-Skrzypek, Baran, 2010, p. 33). This model of scientific career development is incompatible with the models of the majority of other European countries. This concerns both the system of confirming the level of achieved scientific competencies and the system of professional promotion.

The formal prerogatives to grant scientific degrees are attributed to scientific units which are periodically appraised by the Central Commission for Scientific Degrees and Titles, an autonomous central administration body attached to the Prime Minister's Office. This Commission is composed of democratically elected academics who have the title of a Full Professor and had not attained the age of 70 by the day of their election. They are elected

[9] Law of 14 March 2003 on scientific degrees and scientific title and on degrees and title in the domain of arts (with later modifications in 2005.

by Full Professors for a 4-year term. The candidates for this Commission are proposed by the scientific councils of institutions entitled to grant doctoral degrees (Official Journal of 22 December 2014, pos. 1852).

The number of fully employed persons with the required scientific position is conditioning the habilitation of particular scientific unit to conduct an educational program of a concrete profile and to attribute concrete scientific degrees (cf. tab. 3 below).

Table 3. Present conditions and capacities for attribution of scientific degrees and a professor title

Conditions :	Institutional capacity to confer degree or title	Capacity to obtain a degree or title	Capacities of the bearers of a degree or title
Doctoral degree	• Employment of at least 8 persons with the title of Professor or degree of Doctor Habilitatus in the concerned field; • 5 of these staff have degrees or titles in the specific scientific discipline of the subject of the doctorate.	• Master's degree diploma; • At least one significant scientific publication; • Submission of a doctoral thesis; • Successfully passed exams; • Positive external reviews of the thesis; • Successful public defence of the thesis.	• Capacity to supervise and to review Master's theses, to give lectures and to be an assistant director in doctoral studies.
Doctor Habilitatus degree	• Employment of minimum 12 persons with the title of Professor or degree of Doctor Habilitatus in the concerned field; • At least 5 of these staff have degrees or titles in the specific scientific discipline of the subject of the doctorate; • Scientific achievements in this field.	• Doctorate degree; • Significant scientific achievements after the doctorate, considered an important contribution for the development of a concrete scientific discipline; • Proved significant scientific activities.	• Capacity to supervise doctoral theses; • Capacity to be a reviewer in doctoral procedures and to be a council member in a habilitation procedure.
Professor title	The title of a Professor is conferred by the President of the Republic at the request of the Central Commission in charge of Scientific Grades and Titles, based on the recommendation of the	• Doctor Habilitatus degree; • Significant scientific accomplishments exceeding those required in a habilitation procedure; • Important teaching achievements including the	Capacity in: • Directing doctoral studies; • Reviewing doctoral theses as a member of a habilitating commission;

	Scientific Council of an institution able to grant Doctor Habilitatus degrees in the considered field.	development and promotion of scientific staff.	• Acting as reviewer in the procedure of attribution of a Professor's title; • Acting as a member of the Central Commission in charge of Grades and Titles.

Source: Elaboration based on the Law on the scientific degrees and scientific title and on the degrees and the title in the field of fine arts.

The first scientific degree is a Doctor (*doktor*), which can be granted to candidates who have first accomplished a second level of higher education studies, confirmed by the attribution of a professional title of a "Master" (*magister*), "Master – Engineer" (*magister inżynier*), "physician" (*doktor nauk medycznych*), etc. They have to prepare their thesis continuing their doctoral studies or, on an individual basis, under the guidance of their promoter having at least a Doctor Habilitatus degree. The process of their formal promotion begins only when the procedure of attribution of their doctoral degree is officially open, which can take place when the title and objectives of their thesis are accepted by the Faculty Council.

Necessary conditions to obtain a scientific doctoral degree are precisely determined in the Law on scientific degrees and scientific title and on degrees and title in the domain of fine arts (Law, 2003, art. 11-15). In Poland, the Doctor is a scientific degree confirming research competences related to a good mastery of the knowledge in a concrete scientific discipline and more particularly a good knowledge of its most recent achievements, as well as a good mastery of contemporary methods and tools of scientific research. It also confirms the person's capacity to define and solve scientific problems under the scientific guidance of their scientific tutor and to conduct research autonomously.

A doctoral degree normally does not guarantee the status of scientific autonomy and full rights of an academic teacher. In principle, most scientific and teaching capacities, as well as the capacity to fulfil certain academic duties and functions, are not accessible for a simple doctor. Some of these capacities require the acceptance of the scientific council of the entity authorised to conduct the program. It concerns, for instance, the authorisation to deliver lectures and conduct Master's degree seminars, to tutor and review Master's degree theses. Recognition of the role of academic teacher with doctor degree in realisation of learning programs appears in the fact, that the entitlements of higher education institutions

to conduct the study programs are conditioned by the employment of an appropriate number of persons with a doctoral degree having scientific achievements in the specified field of knowledge and scientific discipline. However, the recent modifications in the legislative framework have authorised doctors to hold a function of an assistant director in the doctorate procedures as well.

The next scientific degree is a Doctor Habilitatus (Assistant Professor). It confirms full research autonomy and can only be obtained by a person with a doctoral degree. The possession of this degree gives a number of scientific authorisations, including autonomous conducting of research teams, lectures, Master's degree seminars and oversight of Master's theses. The holders of a Doctor Habilitatus degree are taken into account in the staff minima required for conducting a given study program by the school and also for the entitlement to confer scientific degrees of a Doctor and Doctor Habilitatus. They can autonomously promote new doctors, write opinions in doctoral procedures conducted by other scientists and be members and reviewers of habilitating commissions. A Doctor Habilitatus can also be authorised by the senate of his school to occupy a position of a University Professor. Moreover, the possession of the capacity to attribute Doctor Habilitatus degrees is a condition of the possibility to conduct third degree – doctoral studies and to participate in the procedure of attribution of Professor's titles.

A Professor's title confirms the highest scientific competencies of its holder. This title is conferred by the President of the Republic on the request of the Central Commission for Grades and Titles based on the opinion of an authorised Scientific Council of an academy or other scientific institution. According to the data of the Centre of Information Treatment (a state-controlled institution), in 2009 the total number of Full Professors in Poland was 14,088. However, 44% of that number were over 70 years old. In the case of public schools of higher education it means that they cannot occupy any hierarchic functions or participate in the votes of their collective decision-making bodies (Prawelska-Skrzypek, Baran, 2010, p. 35). The restrictions concerning the age limits are not applied in private higher education institutions, which are currently employing professors retired from public sector institutions and conferring them with hierarchic functions of Deans or heads of institutes and chairs.

The possession of a particular scientific degree opens access to a concrete position in an academic or research institution. The positions of an Assistant Professor and Senior

Assistant Professor require a Master's degree. The position of an *adiunkt* requires at least a doctoral degree and the positions of a University Professor and Full Professor require at least a Doctor Habilitatus degree. A Doctor Habilitatus degree also opens the way to concrete academic functions in academic or scientific institutions. It concerns the functions of the head of department, head of chair, head of institute, faculty Dean and Vice-Dean, Vice-Rector and Rector of an university or other higher education institution.

2.3. The dynamics of scientific careers development from 1990

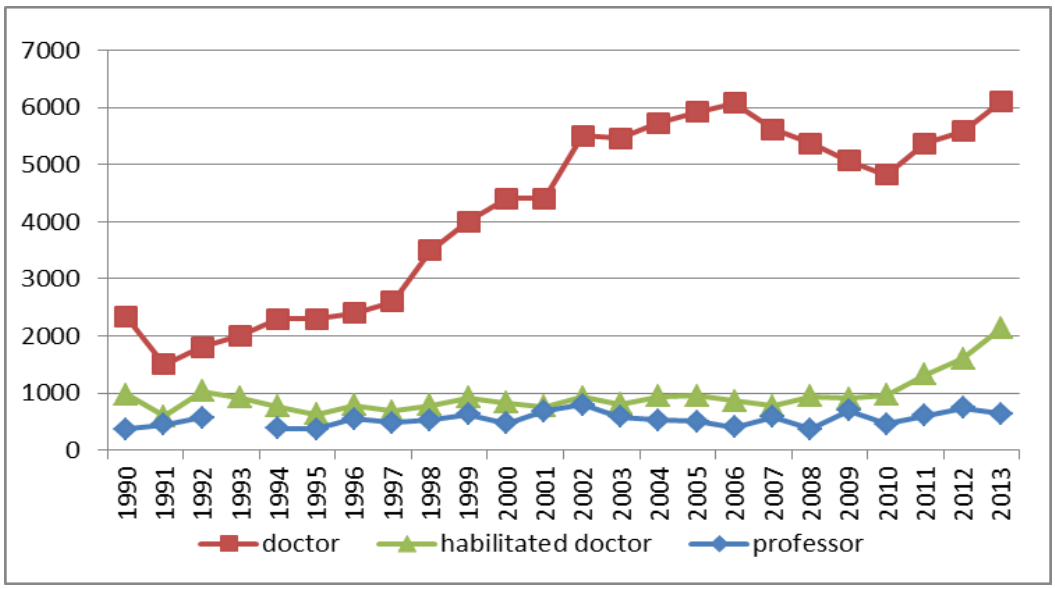
Observing the dynamics of the evolution of scientific careers based on the acquisition of successive degrees during last 23 years one may notice that this model, based on lengthy acquisition of successive steps, has difficulties adapting to the dynamic changes in the modern environment. Yet, in the contemporary knowledge-based society, the ability to adapt to changes is a necessity in modern academic careers (Santiago, Kis, 2008, pp. 137, 140). However, in Poland such an opinion rarely appears in the discussions concerning the academic careers model. Actually, these discussions focus mainly on the conditions of acquisition of respective degrees and on the number of persons who are obtaining successive scientific aptitudes.

Up to 1992, a normal proportion between the number of persons acquiring successive scientific degrees has existed. The divergences between the number and dynamics of acquisition of the degrees of a Doctor and Doctor Habilitatus were justified by greater requirements related to the acquisition of a Doctor Habilitatus degree and Professor's title. Starting from 1992, these proportions have been strongly disturbed, leading to a breakdown in the harmonious development of scientific careers. This situation was continuing up to 2007, when the degree of a Doctor Habilitatus has been received by 771 persons only. An accelerated increase of the number of attributions of this degree occurred in 2011 in connection with new habilitation criteria. In 2013, the degree of a Doctor Habilitatus has been received by 2122 persons. Curiously, a stronger dynamics of development of scientific careers was more noticeable in the case of academic teachers than among the scientific staff of research institutions, who did not have as much teaching duties. During the period of 1990 – 2004, an average of only 120 persons from outside of academia were receiving this degree, representing only 14% of the awarded degrees. However, starting from 2005 this number has been growing significantly to an average of 265 in the years 2005-2010 and to 466 in the

period from 2011 to 2013. The share of these degrees awarded during this period to the persons outside of academia has grown to an average of 29% of the awarded total. It means that twice as many degrees were awarded than between 1990 and 2004. It also means that at the same time there has been a sharp decrease of the percentage of Doctor Habilitatus degrees attributed to academic teachers, causing a significant slowdown in the dynamics of careers development in the academic milieu.

This breakdown in the dynamics of academic careers evolution was also perceptible in the number of Professor titles attributed by the President of the Republic. Up to 2004, the number of these nominations represented an average of 65 % of the total number of awarded Assistant Professor positions. Strongly simplifying, we can consider that during this period about 65 % of the holders of a Doctor Habilitatus degree were receiving a Professor's title. Starting from 2005, the number of Professor's titles in relation to the number of Doctor Habilitatus degrees has significantly decreased (about 14%). During the 2005-2013 period, the number of Professor's titles granted yearly represented only 51% of attributed Doctor Habilitatus degrees. Between 2006 and 2012, a certain slowdown of the dynamics of attribution of doctoral degrees has also been noted. However, generally speaking, the number of attributed doctoral degrees is dynamically increasing, giving the impression that academic activity is increasingly focused on this level of scientific staff (table 3). It seems that from then on the doctors are the hope of the future development of the scientific research and scientific careers in Poland.

Table 4. Evolution of the number of scientific degrees of a Doctor and Doctor Habilitatus as well as Professor titles in the years 1990 – 2013



Source: Personal elaboration based on the statistical yearbooks of the Main Statistical Office (MSO), Schools of higher education and their finances"

2.4. Characteristics of doctoral studies in Poland

There are two ways to obtain a doctoral degree in Poland. The first, a traditional one, is based on the work of the personnel under the supervision of a scientific director, a head of a chair, who should have at least a Doctor Habilitatus degree. The new one is based on organised doctoral studies. It has started to develop strongly in the second half of the nineties of the twentieth century, but its origins reach the sixties, when organised doctoral studies were conducted exclusively by the units of the Polish Academy of Sciences. This system is based on doctoral studies, currently considered as the third level of higher education. It implies not only personal research activities and the obligation to participate in doctoral seminars, but also the obligation to conduct different teaching activities of the faculty – courses, practical exercises and exams. In this way, the participants are supplying or even practically replacing permanent junior faculty staff (Assistant Professors and Senior Assistant Professors). The doctoral students are conducting their personal research under the supervision of the scientific director (promoter) of their doctoral thesis. When the thesis is sufficiently advanced, their scientific director (promoter) proposes to the Faculty Council to officially commence a formal doctoral procedure. When the thesis is approved by the promoter and has received a positive opinion of two reviewers designated by the Faculty

Council, the candidate publicly presents and defends it before the Faculty Council, which officially attributes the degree. Within special doctoral studies programs, both the formal opening of a doctoral procedure and the admission to present and defend the thesis are conditioned by the obtaining of satisfactory results of obligatory courses and practices.

Accredited higher education institutions constitute the main training environment for young scientists. According to the data presented by the Team in charge of the Formation of Doctoral Students (2009), for a total number of 5616 scientific degrees attributed in 2007, 4974 were delivered by public schools of higher education, 253 – by private academic institutions, 200 – by research and development institutions and 192 by the research units of the Polish Academy of Sciences (Prawelska-Skrzypek, Baran, 2010, p. 36).

At the beginning of the period of political transformation, the number of doctoral students has been reduced from 5844 in 1980 to 2695 in the 1990/91 academic year. However, the following years brought a quick increase of the number of doctoral candidates and in 2008 it reached 32,494. However, the increase of the number of participants of doctoral studies did not entail a direct, analogous increase of the number of the bearers of a doctoral degree (cf. Table 3). Actually, a number of doctoral students does not commence the formal procedure described above, is not conducting research and is not writing a doctoral thesis. It is obvious that for the successful achievement of this procedure, the personal motivation of the participant who has undertaken this type of studies should play the key role. But an inquiry conducted in 2009 shows that in practice the motivations to undertake doctoral studies vary. Based on their inquiry, A. Klama and others ascertain that it was a need of self-realisation which has constituted their dominant motivation (Klama and others, 2010, pp. 159-161). Doctoral studies were also oftentimes considered as an opportunity to rise professional qualifications and/or a means of expected increase of personal prestige through a higher social status. However, almost 20% of the respondents chose these studies because they did not have another idea for a different career path or they just did not want to start being professionally active yet. From a different perspective, J. Bugaj and Z. Litwin (2010, pp. 179-180) stated that the main reason to undertake doctoral studies is the interest of the doctoral students in scientific research and the realisation of their passion. But, at the same time, 16% of the investigated persons have admitted that they chose doctoral studies by accident or while waiting for the improvement of the situation on the employment market.

The special doctoral programs can be conducted by research units authorised to confer a Doctor Habilitatus degree. In case of higher education institutions, in view to obtain this authorisation they should have a formal attribution of at least two capacities to confer doctoral degrees in different disciplines of a scientific branch and be authorised to conduct Master's degree programs of the studies corresponding to this authorisation. Doctoral studies can also be conducted jointly with other academic and/or research institutions whose quality of education was evaluated and recognised by the Polish Accreditation Commission when it comes to institutional appraisal.

Doctoral studies are financed mainly by the state budget through subsidises for intramural unpaid doctoral studies. Financial assistance for doctoral students is funded separately. Many academic institutions have built their own scholarship systems for certain specific categories of doctoral students, which are financed by their own resources, from donations and from the foundations collecting resources for this aim. Another source of funds is the financing of projects realised in the process of preparation of doctoral theses. Moreover, a number of regional and local self-governments finances scholarships and innovative research projects conducted within doctoral studies (Prawelska-Skrzypek, Baran, 2010, p. 38-39).

There are also special, centrally managed programs financed by the European Union and the state budget dedicated to young scientists working to obtain a doctoral degree, aimed at sustaining their mobility and international cooperation as well as at the preparation and implementation of individual and collective research projects. Doctoral studies were recognised by the Lisbon Protocol as one of the key factors supporting the development of modern European economy and one of the keys to building a knowledge-based society and economy.

2.5. Acquisition of a Doctor Habilitatus degree and Professor's title

During the last decade, the rules regulating this issue have been evolving and underwent several modifications[10], especially those related to the attribution of a Doctor Habilitatus degree. The most important differences concerning this procedure are related to the introduction of centralised control over the process of awarding this degree, the requirements concerning the scientific achievements of the candidates and their role in the procedure.

Earlier, this procedure was almost entirely in the hands of the Faculty Council, which made the decisions concerning the official opening of the habilitation procedure, the designation of reviewers, the admission of the candidate to the oral presentation of his scientific contribution, the assessment of this presentation and the awarding of the degree. The positive decision was transmitted for approval to the Central Commission for Grades and Titles attached to the Prime Minister's Office[11].

The new regulations uphold the rule that the Faculty Council is the one reaching the final decision concerning the awarding of this degree, but the leading role in the procedure is now played by the Central Commission, which receives the candidate's formal request to officially open the habilitation procedure first. This request is presented with the candidate's written auto-presentation and other required documents including his doctoral diploma. After their formal verification, this request is transmitted to the Faculty Council indicated by the candidate. This stronger centralisation of control over the habilitation process is also reflected in the quantitative reinforcement of the team of reviewers evaluating the scientific achievements and other required documents presented by the candidate. On that basis, the

[10] These rules are based on the general principles defined by the Law on scientific degrees and scientific title and on degrees and title in the domain of arts, modified several times (almost every year) from 2003. Their precedent version, contained in the Regulation of the Minister of Education and Sport of 15 January 2004 on the detailed mode and conditions of activities undertaken in doctoral and habilitation procedures as well as in the procedure of attribution of a Professor's title (O.J. Nb. 65 pos. 595) has been modified next year. Their last version is contained in the Regulation of the Minister of Science and Higher Education of 14 October 2014, on the detailed mode and conditions of activities undertaken in doctorial and habilitation procedures (O.J. 2014, pos. 1383).

[11] This Commission is comprised of persons holding a Professor's title representing all formally recognised scientific disciplines. They are elected by the councils of the faculties habilitated to confer a doctoral degree. This Commission is divided into sub-commissions representing different disciplines and disposes of its own Bureau.

Central Commission expresses its decisive opinion confirming or not confirming the decision of the Faculty Council concerning the attribution of the degree.

Earlier, the team of reviewers was comprised of four persons, two of them designated by the Faculty Council in concern and the remaining two by the Central Commission. In the new procedure, it is the Central Commission that appoints four members of a Habilitating Commission comprised of renowned specialists, including at least two internationally renowned specialists who cannot be staff members of the institution awarding the degree. One of them is designated as the President and two others as reviewers of the presented documents. Three remaining members of the Habilitating Commission represent the institution awarding the degree. They also should be internationally renowned specialists. One of them serves as the Commission's secretary and another one fulfils the role of a third reviewer. The reviewers evaluate the received documents, verifying whether they fulfil the required criteria, and prepare their opinions, which are presented to the members of the Commission. On the basis of the reviewers' opinion and personal evaluation of the written auto-presentation, the Commission votes a joint opinion to award the degree or not. On the basis of this opinion, the Faculty Council votes about the decision to grant or to reject the motion of the candidate. This decision is published on an Internet page along with the author's auto-presentation, the list of the Commission members, the schedule of the proceedings and the vote of the Council along with its justification.

The essential difference between the former habilitation procedure and the present one lies in the fact that in the new procedure the candidate for the degree does not participate in it personally. In the former procedure, the candidate presented orally a "habilitating lecture" containing the main assumptions and findings of the submitted scientific work before the Faculty Council and the members of the Habilitating Commission. It was a good opportunity to ascertain not only the quality of the candidate's thesis and his or her capacity to present it in writing in a manner that would be correct from the formal point of view, but also his or her capacity to present, explain and defend his or her scientific opinions orally before a highly competent public. It was an excellent opportunity to verify his or her teaching capacities in stressful circumstances, which are very important for every highly competent academic. This capacity is considered fundamental in the French procedure of *aggregation*, for instance, which is equivalent to the Polish habilitation. The reasons and justification for

this innovation introduced in the habilitation procedure are unknown and difficult to understand for the authors of this study.

A Professor's title is conferred by the President of the Republic upon the motion of the aforementioned Central Commission for Grades and Titles. In principle, it can be conferred only to a person with a Doctor Habilitatus degree, but on the request of a Council of a faculty authorised to confer a Doctor Habilitatus degree, it can be also exceptionally awarded to a holder of a doctoral degree who has exceptional scientific achievements. Generally speaking, a Professor's title can be conferred to the person who :

1) has scientific achievements exceeding the requirements of a habilitation procedure;
2) has experience of leading teams performing research projects financed through a national or international competitive selection;
3) has successful experience in scientific tutoring and has participated as a promoter or assistant promoter in doctoral procedures including at least once as a promoter and at least twice as a reviewer in a doctoral or habilitation process;
4) has participated in scientific internships and has conducted research works in national and foreign scientific institutions.

The performance of exceptional technological and construction projects is also considered as scientific achievements in this case.

The procedure for obtaining a Professor's title is initiated by the Dean of the faculty on the motion of the person concerned. The faculty Council transmits to the Central Commission a list of at least ten candidates proposed as reviewers in this process. From this list, the Central Commission selects five persons. The proposed candidates cannot be employed in the same faculty institution. There are detailed requirements concerning the reviewers. They should have a Professor's title in the same scientific discipline or a related one. In the case of foreign scientist, they can be holders of a doctoral degree, but they should have significant scientific achievements, at least five years of experience as head of an autonomous research team and have promoted at least two doctors.

The faculty Council is voting about the approval of the reviewers' conclusions and transmits its resolution with all the related documents to the Central Commission, which also votes about whether this proposal can be transmitted for the conferment of the Professor's title by the President of the Republic or not.

3. CHALLENGES AND PROSPECTS OF FURTHER DEVELOPMENT OF POST-GRADUATE STUDIES AND SCIENTIFIC CAREERS DEVELOPMENT IN POLAND

3.1. Recent trends of development of post-graduate studies and of the careers of their graduates

In the process of striving for competitiveness in Europe, a particular role is attributed to the graduates of doctoral studies able and wanting to undertake academic and professional careers (Krasniewski, 2009). According to the inquires conducted by the DOC-CAREERS PROJECT, in contemporary Europe about 50% of people with scientific degrees are working outside the academic sector, both at research and non-research positions (Borrell-Damian, 2009, pp. 102-103). Whereas in Poland until now a significant majority – about 80% of young graduates of doctoral studies – continue their scientific careers (Prawelska-Skrzypek, Baran, 2010, p. 42). Generally they hold positions in the same academic or research institutions where they have obtained their degrees (Batorski, Bojanowski, Czerniawska, 2009).

Precise data on non-academic careers of the people with scientific degrees, including the increasing numbers of graduates of doctoral studies, is not available yet. However, the inquires conducted in 2010 by the team of participants of Jagiellonian University doctoral studies, has proven that in southern Poland as much as 95% of the doctors are employed in public academic institutions. An analysis of 13 portals collecting jobs offers, interviews in the biggest HR firms and in the public employment agencies also exhibited a lack of interest in people with a doctoral degree on the employment market (Całek et al., 2011, pp. 179-183). A greater interest in doctors has only been noted in the IT sector and in chemical enterprises. There were also very few single offers from financial institutions, the energy and construction industry and the marketing and aviation industry. These surveys, as well as an earlier one published by G. Prawelska-Skrzypek and G. Baran (2010), prove the necessity of the

intensification of communication between the academic institutions, which are preparing future professional researchers, and the non-academic labour market, as well as the need for increased opportunities to pursue scientific careers outside the academic environment. Currently, employers are increasingly searching for information about the latest scientific achievements, but their idea about the competences of doctoral studies graduates is generally stereotyped and critical – just like the perception of the economic sector held by the scientists.

3.2. Prospects of further development of post-graduate studies and scientific careers development in Poland

Higher education in Poland is presently facing several important challenges. The first one is caused by a drastic demographic slowdown inducing a significant drop of the numbers of potential candidates for higher education studies. The second one concerns the consequences of economic and financial difficulties leading to the restrictions on the employment market and growing unemployment of higher education graduates. Both factors create a general situation of strong competition among different branches and domains of higher education as well as between its different institutions.

In this context, the importance of the quality of higher education programs and their adequacy to market needs is growing constantly. Also the costs of studying begin to be perceived differently, as a higher education diploma no longer holds a promise of a better chance of finding employment. In this situation, the "value for money" of higher education studies is perceived differently. On one hand, the candidates prefer studies in public higher education institutions that are free of charge, as well as certain low cost programs co-financed by projects with European or other foreign partners. On the other hand, they are trying to choose the programs that are seen as promising a better opportunity to find employment.

This relatively new situation is pushing higher education institutions to create and offer more original and fashionable programs. Some offer narrowly specialized and job-oriented programs in a specific field, but what is currently much more trendy are specialized but multidisciplinary programs composed of elements belonging to different equally considered disciplines. The latter form of program can be organized jointly by several faculties of the same academic institution or even together with other autonomous and independent institutions forming a network. Such is the case of the "Arts Liberales" Academy, which federates 8 biggest Polish universities. Starting from the 2000/2001

academic year, it offers a common interdisciplinary doctorate program of human, social and economic sciences. This program is delivered in the form of intensive sessions, organized twice a year at the different member universities (cf. www.aal.edu.pl/node/18). There are many other interdisciplinary doctoral studies programs that are also being organized within different individual universities. These new programs are trying to fit the needs of the potential employment market more closely than traditional programs addressing formally defined, particular fields of education.

A new challenge in this domain is the necessity to revise and adapt the concept and presentation of higher education programs in conformity to the requirements of the National Qualifications Framework. It was recently introduced into the Polish system of higher education by an amendment of the Law regulating higher education (18.03.2011). Conceived in accordance with the European Qualification Framework, formulated as an important tool of implementation of the Bologna process recommendations, it is being progressively implemented.

These challenges also create a new opportunity for the modernization and improvement of the existing programs. In Poland they are – as for now – generally obsolete and inadequate to the present needs as well as and not adapted to European standards. However, the Bologna declaration, distinguishing three levels of higher education, doesn't make much sense if each level does not have its own finality and is not offering any prospects for a rational insertion into a corresponding level and domain of professional life. Therefore, the curriculum of each program and teaching method should be adapted to a mission statement describing the professional profiles of its graduates. A lack of specific mission statements for autonomous Bachelor's and Master's degree programs, as well as for postgraduate doctoral programs, can have some negative consequences for the prospects of their further development in the context of the increasingly competitive market of higher education services in Poland.

The Bachelor's degree program should not be considered as only the first stage of education in preparation for a Master's degree. In conformity to the Bologna strategy, it should be viewed as an autonomous program preparing directly for professional live. Otherwise, it contributes to the maintaining of the archaic traditional conviction that only an

uniform five-year Master's degree program can be considered as true higher education[12]. Therefore, it seems necessary to formulate the mission of each program more precisely and concretely, indicating also the professional profiles of the program graduates. It could facilitate the improvement of the programs' curricula and the specialisation and teaching methods, adapting them to their missions and objectives.

FINAL CONCLUSIONS

The present model of scientific careers in Poland constitutes a permanent subject of very heated debates in the national academic milieu. It was also criticised in the OCDE report (Fulton et al., 2008). It has been slightly modified in the recent years, but the objection that it is mainly oriented towards the acquisition of new scientific grades remains valid. Taking into account that acquiring the successive steps of the scientific career is conditioned by a positive opinion on someone's scientific achievements, expressed mainly by much older and prominent colleagues, it can draw more critical opinions and inspire creative courage. According to J. Wieczorek, it generates attitudes of conformity and opportunism (Wieczorek, 2008, p. 90). R. Tadeusiewicz writes that *„in the course for a scientific career, measured with the chainlet of successively obtained degrees, positions and scientific titles, ambitious and scientifically important themes are abandoned in view to reserve time and talent exclusively for "dissertable" themes, which means in everyday practice the subjects well appreciated by the prominent representatives of different opinion making bodies"*.

Following the recommendations of the European Charter for Researchers, this model should be replaced by a model of personal achievements oriented towards an increased progress of science. Until now, insufficient stress was placed in Poland on the international dimension of scientific careers**,** on national and international mobility and on the dissemination of our scientific achievements abroad. Participation in interdisciplinary research teams is also insufficiently taken into account. Despite the fact that the new

[12] It is no coincidence that Law faculties are categorically rejecting any propositions to introduce a Bachelor's degree program and recognize the possibility of any judicial profession or position for people with an undergraduate Bachelor's level of legal studies - despite the fact that it is common practice in all developed democratic countries.

regulations recognise the role of contributions made thanks to interdisciplinary and inter-institutional teamwork, in Poland collective publications are still often considered as the less worthy effect of scientific activity.

The change of the context of academic careers development in Poland after the political turnover of 1990, and especially the massive growth of higher education, entailed a significant decrease of financial resources for scientific research at the beginning of this process. On the other hand, it also caused Poland to be much open for relations with the external scientific world, even though at the beginning it did not change much in the Polish model of academic careers. However, a rapid development of international scientific cooperation has progressively exhibited the difficulties related to the characteristics of the Polish career path. It became obvious that the existing long, rigid and bureaucratically over-formalised career system was blocking innovation and recognition of individual scientific achievements.

The first attempts at modifying this system were undertaken as soon as the beginning of the nineties of the twentieth century. Changes have been introduced slowly, but steadily and this process is still under way. However, no fundamental change has been brought about yet. The experience of mass education in academic institutions, and more particularly the difficulties in ensuring education quality in numerous commercially oriented schools of higher education, has influenced this process and the manner of implementation of changes in the scientific careers. It has generated a big distrust and carefulness about the process of broadening the access to entitlements related to a scientific career. Negative experiences connected to unlimited access to higher education have contributed to a stiff understanding of the essence and meaning of a scientific career, as well as of its principles of access and promotion. It has also generated strong tensions, because in contemporary society the expectations towards science and scientists are largely transcending the walls of academy.

Nevertheless, generally speaking, the conditions of scientific activities during the last few years have been changing both significantly and positively. First of all, the resources devoted to research activities, still considered insufficient by the academic milieu, are significantly growing. At the same time, a drop in the number of students, due mainly to a sizeable decrease in the population because of demographic reasons, has permitted to devote more attention to research activities. In this new context, the researchers are obliged to open

themselves to the development of their academic careers to face global social and economic challenges.

These challenges require a new approach to the development of both scientific research and higher education organisation. Until now, the dominant trend was the separate development of different traditional scientific disciplines. This model is based on the principle of one pivotal scientific domain for each higher education program, divided into its different specialised sub-disciplines and fields of practical application. Other domains of science were (and generally still are, in the majority of programs) considered as autonomous but supporting, complementary and subsidiary matters.

One of the most important and urgent requirements of modern developments in this domain is an interdisciplinary approach. This approach requires the necessity to take into consideration the intersections and mutual influences between two or more aspects or phenomena, which were hitherto analysed separately by different disciplines. This new approach was already much more practiced and advanced in Poland earlier in so called "exact and natural sciences", but not yet in different fields of human and social sciences. Each of these last branches has developed its own terminology and different sets of concepts, sometimes leading to misunderstandings caused by using wrongly interpreted notions and concepts borrowed from other disciplines. This problem is aggravated in Poland by the fact that these concepts and terminology can have their origins not necessarily in the literature written in English, but also in other different foreign languages, depending on personal linguistic capacities and foreign experiences of the person concerned. It sometimes happens, especially in the field of judicial, social and political sciences, that the same term can have a different conceptual meaning in a different scientific discipline, in different European countries, in their various legal frameworks and in their different languages.

Moreover, in Poland, the current scientific career paths outside of the academic institutions, or at least in close relation with their economic and social environment, are still rare and generally not well thought of in academic milieu. Meanwhile, the dynamically developing economy is entering into the innovative phase of development, where the demand for the involvement of open-minded and creative scientific researchers is growing. It seems that this gap should be filled mainly by the young graduates of doctoral studies. It is important to look for the talented ones and to entitle them to autonomously manage research teams.

Therefore, the formal requirements, as well as very long and complicated procedures, should not stand in the way of their activity in this field.

The quality and autonomy of higher education programs depends on two main factors. In the first place it depends on the autonomy of their roots and their background in scientific research. Therefore, we are of the opinion that each degree program should have its distinctive institutional framework, based on a faculty nucleus composed of the academic staff that really feels attached to it. They should be able, motivated and empowered by the school authorities to create, implement, follow and assess the strategy and planning of constant development of their programs. This strategy should be aimed at quality improvement and the effectiveness of the learning process as well as a constant adaptation of the program contents to the changing needs of the employment market, which should also include the needs of academic, research and R&D institutions. Therefore, this strategy should also contain the development of their research activities linked and interacting with the learning process. This research should be more empirically oriented, focused on problem solving and more interdisciplinary. It should also involve the students preparing their working papers and final theses. Preferably it should be organized as a networking system with other national, foreign or international institutions.

Unfortunately, until the present very few Polish higher education and/or scientific research institutions have been conducting their educational and research activities based on an interdisciplinary approach. Moreover, in 2011 the Minister of Science and Higher Education has adopted the regulation "on knowledge areas, domains of science as well as scientific and arts disciplines" (O.J. 2011/179/1065), which has rigidified the existing classification of scientific disciplines and corresponding study programs. This regulation distinguishes 8 main areas of knowledge, comprised of a certain number of domains of science and arts (from 1 to 4), each of the latter being composed of a certain number of scientific disciplines (from 0 to 22). This formal attribution of these disciplines and corresponding study programs to different domains and areas of knowledge is often arbitrary and seems to reflect mainly the initiatives of certain traditional academic milieus protecting their existing scientific and pedagogical potentialities. For instance, the discipline of Administrative Sciences is curiously classified in the domain of Legal Sciences, together with Law and Canon Law, which seems to be in evident contradiction with its pluralistic name. Moreover, the Public Administration programs are officially classified in the group of

Legal Sciences, which does not include Management, curiously classified simultaneously in 2 different domains – namely in Social and Human Sciences. In consequence, corresponding quality assessment teams of the National Accreditation Commission that verify the PA program do not generally employ any economists or specialists in management, but they certainly do employ lawyers, who can formally even be Canon Law specialists. This also concerns the profiles of the specialists participating in the evaluation of doctoral theses or in the Doctor Habilitatus degree attribution in this discipline.

In this situation, the real implementation of the National Qualification Framework (NQF) and its philosophy is not easy and will take a long time. It is unable to rapidly and drastically improve the quality and modernize all presently existing programs, which for the most part still remain rather mono-disciplinary and delivered using mainly traditional teaching tools based on passive reception and orally transmitted knowledge.

The second factor influencing the relatively low quality level of most higher education programs in Poland has its social, economic and financial origins. Actually, it is virtually impossible to ensure a high quality of university level education, almost unlimited access to higher education studies and relatively high salaries of the academic staff at the same time. Open access to higher education for everybody who wants to study is possible in liberal democracies where the paid higher education studies permit to ensure that the demand is generating offer. Unfortunately, in the situation when the secondary schools are not very selective, the level of candidates for higher education studies is also very low and most private higher education institutions, if they want to earn money, are obliged to accept all candidates who are able and want to pay. In consequence, it requires a big number of relatively poorly remunerated teaching staff. The relatively low remuneration of the teaching staff in Poland as compared to other European countries has two effects. Firstly, those who want to and can find better paid jobs don't want to choose an academic career (at least on a full-time basis) and others who do not have this possibility seek to work for more than one higher education institution or take overtime teaching hours during the weekends for part-time programs and/or take some extra jobs in other private institutions. It is obvious that in these conditions it is difficult to ensure a satisfactory level of higher education studies and a dynamic development of research activities.

As a conclusion of this paper, it seems interesting to present one of the recent critical opinions concerning the present situation of higher education and scientific research in Poland, recently formulated and discussed in the Polish press. Karol Modzelewski, a Professor of history and an eminent representative of the older generation of Polish scientists, has noticed that the principles governing the contemporary Polish higher education and science *"are the products of the reforms conducted on the base of a simple imitation of ready-to-use models taken from the EU"*. He criticizes the *"extremely detailed and developed reporting system*" concerning the teaching activities, as well as the new principles and procedures of financing and clearing of spending for research activities required by the ministerial authorities. He underlines that, taking into account "a market effects" can be justified for applied research, but *"is an absurd in the case of fundamental research activities, especially in the field of social sciences, which are producing their effects in the field of culture and social self-consciousness, but not on the market"*.

He also denounces the *"abandon of long-term financing for the ministerial open competition for grants based on the Anglo-Saxon model"*. He considers that the measurement based on an index of quotations of Polish scientist in scientific journals mainly in English, contained in the international data bases, reflects *"an inconsiderate confidence for quantitative evaluation objectivity of the scientific activity"*. He considers the assumption that these rankings are objective as *"a methodological absurdity"*, because it is independent of any evaluation and based on a simple calculation. To him, *"the conviction that the quantity of quotations can be used as a criterion of the quality of a publication comes from a technocratic vision of the world"*. He pertinently points out that a scientific book or article can be quoted for different reasons, which sometimes have nothing to do with a positive opinion of the quoting person concerning the quality of the quoted publication. He also signals that publications in English, considered as the data base in the rankings of quotations, *"leave Polish human sciences on the margins"* because the authors publishing in these publications do not know Polish and for this reason are not reading and quoting works published in this language. He adds that *"[t]he ministerial appeals to write in English are tacitly suggesting that these publications should be written for rankings rather than for nationals"*. Finally, he concludes that *"the mission of human sciences is not a rankings show, but communication with the educated public of the country"* because anyway *"the best of our publications will be translated and published abroad"*. He also denounces the passive

reception of motivations and problems dominating the research in Western countries, which can't be considered as the way to international successes of Polish scientists because *"the scientific international community appreciates originality more than receptivity"*.

He also criticises another recently adopted criterion for the evaluation of Polish scientists, which is the number of grants obtained for research projects**.** He considers that this market stimulator is particularly harmful and demoralising for young researchers, because *"they should rather write original papers instead of bloated requests for European or national bureaucracy".* He thinks that the preferences of the grant givers should have no influence on the choice of research problems and creative sense of the researchers. In his opinion, *"[i]n the name of market parameters and stimulators, the higher education authorities in fact deprived the universities and scientific research institutions of the attributes of their autonomy, submitting them to paltry control and interference, thus creating a new kind of liberal-democratic centralistic system of science and higher education organisation"*.

Finally, he considers that the common guiding principle of the changes introduced in these fields "*seems to be based on a general mistrust*"**.** Actually, in the name of the protection of the public interest, it seemed necessary to equip the public administration authorities (including also a number of people with scientific titles) with financial and para-market instruments of control and tender procedures which should ensure the infallibility of their decisions. He pessimistically concludes that in this situation *"[t]he autonomy of higher education institutions and the freedom of science may remain a noble relic of the past"* (Modzelewski, 2015).

The authors of the present paper do not entirely share this very pessimistic opinion. However, they also consider that it reflects another important problem related to the introduction of common European standards in different countries with different traditions and different models of organisation and functioning of their scientific research and higher education institutions. It concerns not as much the way of reception of these standards in their different legal frameworks, but first of all the problem of their interpretation and implementation in practice. The implementation of these standards in Poland is certainly too formal and superficial. It contributes mainly to the promotion and financing of research projects that are formally correct, but not very important from the scientific point of view and

not really interesting, with European funds. This often happens to the detriment of more serious and important programs requiring longer term scientific activities of solid interdisciplinary teams composed of young enthusiastic researchers under the guidance of their older and more experienced colleagues.

EXECUTIVE SUMMARY

The paper begins with a short introductive presentation of the main turning points of the history of higher education institutions, starting from the creation of the first Polish university in the XIV century up to end of communist system.

The following part presents the evolution of the institutional and legal framework of Polish higher education and research institutions. First, it presents the quantitative and qualitative development of these institutions and of their academic staff during the 25 years of the post-communist period. Then, the current legal and institutional framework of Polish academic and research institutions as well as their relations with the governmental administration responsible for their functioning and their institutional development are described.

The next chapter contains the present model of Polish academic careers system comprised of the academic functions in Polish scientific and higher education institutions and of the corresponding scientific degrees and titles required to be appointed to perform these functions.

The conclusion identifies the socio-economic constraints of the development of Polish research and academic institutions. The paper ends with the presentation of a recent opinion on this subject from an important representative of the Polish academic society, regarding the conditions and prospects of desirable development in this field, shared to a large extent by the authors of this paper.

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