polish sociological review 1(185)'14
ISSN 1231 – 1413

JANUSZ MUCHA
AGH University in Krakow

KAMIL ŁUCZAJ
Jagiellonian University in Krakow

Foreigners in the Polish Academic System at the Beginning of the 21st Century. A Quantitative Analysis of their Employment According to the Official Documents[1]

Abstract: This is an empirical quantitative analysis of the official data coming from the Polish Ministry of Science and Higher Education. The foreign scholars in Poland at the beginning of the 21st century are presented in the context of the global "brain circulation" or migration of highly qualified specialists. The second context is the present Polish academic system. In this paper we discuss characteristics of the analysed data base, universities and colleges where the foreign scholars are usually employed, the academic disciplines they represent, the relations between the number of foreign scholars and the institutional prestige of schools employing them, and conclusions on what we can and cannot learn from the data set analysed here.

Keywords: Brain circulation, migrations of scholars, academic system in Poland, foreign scholars in Poland.

Introduction

The following is the empirical analysis of the official database provided by the Polish Ministry of Science and Higher Education at the end of 2012. The Ministry obtained this information from individual Polish research and higher education institutions and then aggregated it. This article shows, only from a quantitative perspective, the population of foreigners who are employed in the Polish academic system. We do not use any other data sets (although, we offer our own typologies, comparisons with other aggregated databases and the breakdowns which are not present in the original database, where we find possible). Despite the minuteness of individual pieces of information, the base proves to be an estimate rather than one of precise character. However, this is the most comprehensive set of official Polish data on the topic. We believe that it is better to analyse this imprecise base than to ignore it altogether. The problem is that due to its inaccurate character, it is very difficult to test more general

[1] In this article, we draw upon our Polish language text "Polska w świecie 'krążących umysłów.' Ilościowa analiza struktury zatrudnienia zagranicznych uczonych" published in Poland in the quarterly *Zagadnienia Naukoznawstwa* (see: Mucha and Łuczaj 2013). We appreciate the permission given to us by the Editors.

hypotheses. Therefore, our interpretations cannot be anything other than relatively "soft."

We begin with the general social context of the local Polish "brain circulation." This context is formed by the contemporary migrations of highly skilled specialists, and particularly by the recent globalization of the world of research and higher education (for a summary, see, e.g., Mucha 2013). The second context is the Polish academic system.

Brain circulation

Foreigners have been a crucial element in many academic systems for many centuries. However, in this article we are interested in the most recent situation. We have found selected global information from 2001 (eleven years earlier than the data base we are analysing now was compiled). In the ten leading countries of Europe and the US, the proportion of foreigners was as follows: Switzerland—13.0%; the US—8.9%; United Kingdom—5.9%; Norway—4.3%; Belgium—3.3%; Austria—3.0%; France—2.8%; Germany—2.8%; the Netherlands—1.6% and in Italy—0.3% (see: Kaczmarczyk and Okólski 2005: 51, Table 8). The first of these selected countries enjoyed the proportion of researchers and academic teachers coming from abroad more than forty times higher than the tenth country; the second had this proportion thirty times higher that the tenth. In the US (the most studied country), the foreigners work first of all in the most prestigious research universities, mainly in departments of science and engineering. In some of these disciplines, every third newly employed scientists is a foreigner. In the same country, in the early 21st century, most foreign researchers and academic teachers came from China (22%), India (9,4%), South Korea (9,3%), Japan (5,4%), Germany (5%) and Canada (4,5%). From 1965 on, most immigrant scientists have come from non-European regions, such as Asia, Africa and South America (Kim, Wolf-Wendel and Twombly 2011: 721).

Migrations of scientists (and, more broadly, of highly skilled specialists) are often analysed in terms of *brain drain*. This concept (and its transformations) is very useful if we want to briefly present various phenomena characterizing the multifaceted and multidirectional migrations of scientists in a world which is far from equilibrium, a world in which centres, semi-peripheries and peripheries are shifting all the time, and one in which individual countries have various interests related to the production of knowledge. "'Brain drain' is a phenomenon in which people of a high level of skills, qualifications, and competence leave their countries and emigrate. One major case of the brain drain happens when students from developing countries studying in the developed countries decide not to return home after their studies" (Baruch, Budhwar and Khatri 2007: 99). The term first appeared in 1963 and "it initially referred to British scientists and technologists who sought work in the U.S." (Hart 2007: 44). Globalization, the increasing significance of the transmigration and transnationality phenomena, shifts of centres of technology, the internationalization of scientific activities, the above mentioned multidirectional character of migrations, all demanded

new ideas. Concepts like *talent flow*, *brain gain* and *brain circulation* became more and more popular (see, e.g., Jałowiecki and Gorzelak 2004: 299; Baruch, Budhwa and Khatri 2007; Fontes 2007: 285; Ackers and Gill 2008). According to Bohdan Jałowiecki and Grzegorz Gorzelak, while the brain drain processes are generally spontaneous, the brain gain processes are usually organized, both by governmental programmes and non-governmental organizations, like foundations. Brain drain ideas began to be considered as too simplistic when the migration scholars learnt that with the obvious lack of symmetry in this exchange, all partners gain (to a different extent and in a different sense), and costs, unequally divided, again, are shared by all parties.

Scientists are a specific part of the broader category of highly skilled migrants. Spatial mobility of researchers has been, for centuries, a significant aspect of the *habitus* of the world of knowledge production and its main characteristics are the relatively independent and individual ways of the organization of migration, stimulated by the ambition to achieve higher prestige and recognition as well as founded on the networks of professional relations, built by individuals. Economic motivations are obviously important, but in many cases they do not necessarily mean the wish to increase individual income, but rather to get access to well equipped labs and libraries, to the *tacit* aspect of knowledge production, built upon personal contacts with recognized scientists, and to the access to other coveted resources.

Anthony H. Richmond, who analysed the new world order (and the new and global movement of populations), which began to appear at the end of the 1980s, divided migrations into two broad, polar types: "reactive" and "proactive." The second type, embracing the migration of scientists, refers to the spatial movements related to the "relatively unconstrained choice, unlike refugees and others reacting to circumstances almost entirely beyond their control. The choices facing proactive migrants include whether to move at all, when to move, whether to go a long or a short distance, […] whether to travel alone or with family members or friends, and whether to follow a route already established by others, […] how long to stay in the new location," et cetera (Richmond 1994: 58–60).

In scholarly literature, the term "foreign scientists" (or migrant scientists) is usually employed with reference to people born abroad. Rafael Alarcon, describing the American situation, introduced (based on his interviews with East Indian and Mexican engineers and scientists in Silicon Valley) "four types of highly skilled migrants coming from developing countries: children of immigrant families, former employees of subsidiaries of U.S. companies located abroad, former foreign students at U.S. universities, and 'high-tech *braceros*'" (Alarcon 1999: 1387–1392). As we shall see later, our database does not authorize us to use this interesting typology in reference to the Polish situation (it inspired us, nevertheless).

Polish System of Research and Higher Education

In Poland, most of the scientific (scholarly) research is done in institutions of higher education. In addition to these institutions, research institutes such as the Polish

Academy of Sciences (the PAN; some of these institutes have doctoral and even master's programmes; some grant the habilitation degree[2]) exist, as well as special research institutes that prepare analyses and reports for individual state ministries and are also supervised by them. Higher education is controlled by the Ministry of Science and Higher Education. However, some institutions of higher education are also supervised by other ministries (such as military schools—by the Ministry of Defence, or medical schools—by the Ministry of Health). Schools of this level are divided into public and non-public. Some legal regulations are identical, while others are not.[3] Schools are also divided into "academic" (having accreditation which allows them to grant the habilitation degrees) and "non-academic" (without this privilege), so-called "schools of applied sciences" (preparing specialists in certain trades on the higher level of education).

Poland belongs to the European system of higher education based on the "Bologna agreement." According to this system, there are three tiers of higher education: bachelor (or engineer), master's and doctoral levels. In order to get the accreditation for running an undergraduate (BA or equivalent), a graduate (MA or equivalent), or a tertiary programme (PhD), a school has to employ a certain minimum number of PhDs with habilitation and PhDs without habilitation. In one school and one discipline, only two foreign PhDs and PhDs with habilitation (or professors) can be included into this minimum number. Institutions of higher education can employ foreigners (as well as Poles) without the PhD degree, for instance as instructors and/or language teachers. These teachers will not be, however, included into the minimum mentioned above. In Poland, there are two academic degrees: PhD and PhD with habilitation. Moreover, there is an "academic title"—"professor." This title is granted by the President of Poland.[4] Only in exceptional circumstances habilitation is not a prerequisite for receiving the title of professor. To complicate things, there is a university position called "professor." One needs to have the PhD with habilitation in order to apply to the senate of his/her school for this position. The professorial title is a precondition to get the position of "full professor." Many PhDs with habilitation are employed as assistant professors, particularly at very good schools that have many professors with this title. The BA and MA (or equivalents) are the "occupational (not academic) titles." We shall refer to all academic teachers and researchers as "academics."

In Poland, schools teaching on the higher level have various names. The most prestigious is "university" (in some contexts we shall call it "university with no adjective;" these two names will be equivalent in what follows). The second prestigious type of school is the so-called "university with adjective" (for instance "medical university"

[2] In short, a second doctorate. The habilitation degree is a necessary requirement to get any academic position higher than assistant professor. The habilitation process can be compared to American tenure review.

[3] See: Ustawa z dnia 27 lipca 2005 r. Prawo o szkolnictwie wyższym [Law of higher education], http://isap.sejm.gov.pl/DetailsServlet?id=WDU20051641365 [7 October 2013].

[4] A candidate applies via a school (of his/her choice) having all credential in his/her discipline. The application has to be approved by the Central Commission for the Degrees and Title, formally independent of the Government.

or "pedagogical university"). Some "technical universities" are called "polytechnics." The third in rank is "academy." Universities (and their official Polish language names) are established by the Parliament, while academies are established by the Minister. In the English translation, many schools which are formally neither universities nor academies use the name "university." Universities and most academies have full academic rights to grant all degrees and open the "professorial procedure" in many disciplines. Some schools do not (for the sake of tradition) apply for the more prestigious name although they have this option.

In the following, we shall use the terms "university" and "academy" in the sense presented above. We use the term "school" if we do not need or wish to distinguish between universities, academies and other institutions of higher education. The vast majority of schools are non-public. Nearly all universities and academies are public. Public schools are usually more prestigious than non-public.

Polish universities do not belong to the global elite of institutions of research and higher education,[5] however, neither do Polish banks, manufacturing companies, etc.

The Database[6]

According to the newest report issued (but not published) by the Polish Ministry for Science and Higher Education (see: SIoSW 2012), there are (as of 21 November 2012) 1,887 foreigners employed in academic positions in Poland. As mentioned earlier, they will be referred to as "academics" in this paper. Foreign academics constitute 1.9% of all academics working in the country. When we compared the Polish data of 2012 with the above quoted global data of 2001, we would place Poland in the ninth position with regards to the percentage of foreign academics.[7] They work here in 270 public and non-public schools (and research institutes).[8] In the 2010/2011 academic year there

[5] See: http://www.timeshighereducation.co.uk/world-university-rankings/2013-14/world-ranking) [7 October 2013].

[6] „System informacji o szkolnictwie wyższym" stan danych na dzień 21.11.2012 r. (["Information system on higher education, as of 21st November 2012"]; a file obtained from the Ministry of Science and Higher Education in Poland; quoted further as SIoSW 2012). The data set was collected by the Ministry's Department of Strategy and then plugged into the POL-ON computing system. According to this information, on this particular day 97,876 academics (again, researchers and academic teachers) worked in Poland. The title of the whole set of data provided by the Ministry and consisting of five files is: "Number of foreign academics" and the subtitles are: 1. "According to the country which issued the ID," 2. "According to the academic title and the academic discipline," 3. "According to the country which issued the ID and the academic title," 4. "According to the academic discipline" and 5. "According to the academic title." We asked the Ministry to explain some doubtful information. The most important problems and explanations will be presented on the following pages. We appreciate the help of Mr. Andrzej Kurkiewicz, Director of the Ministry's Department of Strategy

[7] In actuality, we do not know how many countries were researched and how many of them would be placed in that table ahead of Poland.

[8] The original ministerial database contains information on 355 individual schools and research institutes. After a careful analysis, we had to merge some of these. In addition to simple but numerous typos in the file, due to which the computer system generated institutions which do not exist, there are 79 cases less obvious but still very doubtful. When the database provides information on academics who were listed under two institutions, we referred to the first one.

were 470 institutions of higher education in Poland, 132 public and 338 non-public.[9] This means that 58% of all Polish schools employed foreign academics.

The ministerial database contains the list of schools. It breaks down the sets of foreigners who work in them into categories: a) country of origin, b) academic degree and academic title (the SIoSW also lists people "with no title," whom we interpret as persons without an academic degree of PhD or PhD with habilitation or professorial title) and c) academic disciplines. In order to do the calculations and comparisons, we added new categories to the SIoSW database: 1) region (voivodship) where a given school is located, 2) its position in the leading rankings of Polish institutions of higher education and major research institutes, published by the "Perspektywy" monthly and "Rzeczpospolita" daily in 2010[10] (the latter information is not *implicit* in the SIoSW), 3) type of the school (public and non-public) and 4) character of the school (we have distinguished seven types presented below).

As we have already mentioned, the analysed database contains a lot of unclear and inconsistent pieces of information. The crucial problem is the vast category "no data," referring first and foremost to the countries from which particular foreign academics come. On the ministerial list there is no information on 79 schools,[11] all together employing 359 foreigners.[12] The second very problematic issue is "Poland" as the name of the country listed from which the foreigners originate. According to the additional information we received from the Ministry, these are individuals who have acquired Polish citizenship (or a Polish ID) but had been foreign nationals earlier. There is also a problem with names of countries of origin,[13] as well as with names of schools in Poland. The next problem is that the database uses the phrase "people with no title," which in our interpretation means that these individuals have neither an academic degree nor an academic title, but they can have the "occupational title" of BA and MA equivalents. There are 568 people in total with "no title," which is about 30% of the whole set of foreign academics. In the universities with no adjective we found 390 such people (68% of foreigners with "no title" employed in the Polish academic system). We believe that they are mostly the language teachers who work in many schools but first and foremost in schools with advanced programmes in foreign languages and literature. To conclude this section, let us return to the major characteristic of our set of data. We call the individuals who belong to this official set of data "academics" (which, for us, also includes language teachers with "no title") but the ministerial information also calls them "academic teachers and researchers" or "researchers" (and language teachers with "no title" should not belong to this

[9] See "Dane Statystyczne o Szkolnictwie Wyższym (za rok 2010/2011)" (Statistical data on higher education for 2010/2011), available: http://www.nauka.gov.pl/szkolnictwo-wyzsze/dane-statystyczne-o-szkolnictwie-wyzszym/ [18 January 2012].

[10] *Perspektywy* monthly publishes three different rankings of schools: "Ranking of academic institutions," "Ranking of non-public institutions granting master's degrees," "Ranking of schools of applied sciences" and "Public Schools of Applied Sciences" (PWSZ). The latter schools constitute a system of educational institutions which have the same general name but each has a different "patronage."

[11] In the original SIoSW database there is no sufficient information on 103 institutions.

[12] Data on many (but not all) academics who work there are incomplete.

[13] For instance, we had to merge the "United Kingdom" and "Great Britain" into one category.

category). We are not able to determine to what extent the official definitions of researchers used by the Polish Main Statistical Office (see: Frascati 201: 107–109) apply in the ministerial database.

Countries of Origin of Foreign Academics Working in Poland

Holding foreign citizenship,[14] academics who work in Poland usually come from one of the seven neighbouring countries, or they are people who more or less recently received Polish citizenship,[15] although in the latter case we cannot determine their country of origin through the use of the ministerial database. If we order the set of foreigners according to countries of origin, in addition to the above-mentioned persons ("foreigners coming from Poland"), we find U.S. and UK citizens in the first ten positions (starting from the most numerous). They are the people for whom, theoretically, English, the global language of the world of science, is the mother tongue.

Table 1

Countries of origin of foreign academics in Poland

Country	Number of academics	Proportion of all foreign academics emoployed in Polish schools	Number of schools employing academics of this nationality	Proportion of schools employing academics of this nationality in the general number of schools employing foreigners	Average monthly salary of full professor in country of origin (2006–2007)*
Ukraine	398	21%	139	51%	1,000 EUR
Slovakia	138	7%	63	23%	No data
Germany	119	6%	59	22%	4,546 EUR
Poland	114	6%	42	16%	1,758 EUR
Belarus	102	5%	42	16%	No data
Russia	90	5%	51	19%	1,100 EUR
Czech Republic	89	5%	49	18%	1,950 EUR**
United Kingdom	52	3%	29	11%	6,353 EUR
U.S.	51	3%	30	11%	8,529 EUR
Lithuania	38	2%	16	6%	No data

If not said otherwise, the source here is only the official SIoSW database. We do not know which part of Germany (East or West), united now, the academics who work now in Poland come from.

* Source: European University Institute, http://www.eui.eu/ProgrammesAndFellowships/AcademicCareersObservatory/CareerComparisons/SalaryComparisons.aspx [26 April 2013].

** Source: Higher School of Economics in Moscow and Boston College Center for International Higher Education, http://acarem.hse.ru/data [25 April 2013]. In this data base, the monthly salary of Czech professors (for 2009) was estimated for 2562 USD.

[14] In fact, they are people who only had non-Polish IDs. The situation is not clear, though. Another thing is that we do not know how many foreigners are ethnic Poles, and who had worked abroad and returned to Poland with a foreign passport.

[15] Or a Polish ID.

Polish Schools Employing Foreign Academics

There are clear disproportions between public and non-public schools[16] regarding the numbers of employed foreigners. At least one foreigner works in each of 124 public institutions (94%)[17] and in each of 143 non-public ones (43%). The difference increases when we compare the numbers and not only the proportions. In public institutions, there are 1,378 foreigners while in non-public ones there are only 509. In the first twenty schools employing foreigners (in the order of the number of foreigners), there are only two non-public schools, in the seventeenth and eighteenth positions. However, we must remember that the public schools are almost always larger than the non-public ones.

Table 2

Polish schools employing the largest number of foreign academics

	School	"No title"	PhD	PhD Hab.	Professor (title)	All
1.	Warsaw University	111	10	4	1	126
2.	Adam Mickiewicz Uniwersity in Poznan	72	30	13	4	119
3.	Jagiellonian University in Krakow	50	15	4	2	71
4.	Szczecin University	9	16	19	7	51
5.	Catholic University in Lublin (KUL)	11	13	8	12	44
6.	Wroclaw University	27	5	6	4	42
7.	Gdansk University	23	10	6	1	40
8.	Rzeszow University	0	7	15	18	40
9.	Maria Curie University in Lublin	14	12	8	5	39
10.	University in Bialystok	16	7	7	7	37
11.	Lodz University	19	9	4	0	32
12.	University of Silesia in Katowice	16	7	6	3	32
13.	University in Olsztyn	4	10	6	10	30
14.	University of Opole	5	8	5	10	28
15.	University of Zielona Gora	5	3	12	6	26
16.	AGH University in Krakow	5	5	9	6	25
17.	**School of International and Regional Cooperation in Wolomin**	**3**	**12**	**1**	**9**	**25**
18.	Jan Kochanowski University in Kielce	2	6	6	10	24
19.	**Business School in Legnica**	**2**	**3**	**2**	**17**	**24**
20.	Koszalin Politechnic	2	8	5	8	23
21.	Opole Politechnic	6	5	3	9	23
All		568	439	399	481	1887

According to the categorizations in the SIoSW base, the set of academic institutions presented in the ministerial database can be broken down by their profiles

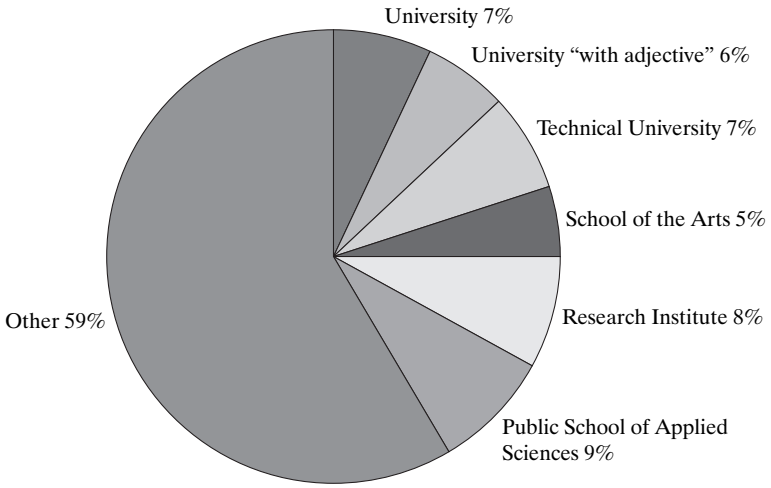
[16] To the set of public schools, in addition to universities, academies, polytechnics and other schools, we included research institutes run by the Polish Academy of Sciences (PAN) and other public bodies, like ministries.

[17] However, among the analyzed schools there are also research institutes.

into the following types: "universities with no adjective;" "specialized universities" (belonging to a larger category of "universities with adjective") such as technical universities; other "universities with adjective," for example medical or agricultural; art schools; public schools of applied sciences; research institutes; and remaining institutions (in the database as "others").[18] The pattern of employment of foreigners in these types is presented on the following charts.

Chart 1

Types of schools and research institutes among all Polish schools and research institutes employing foreigners



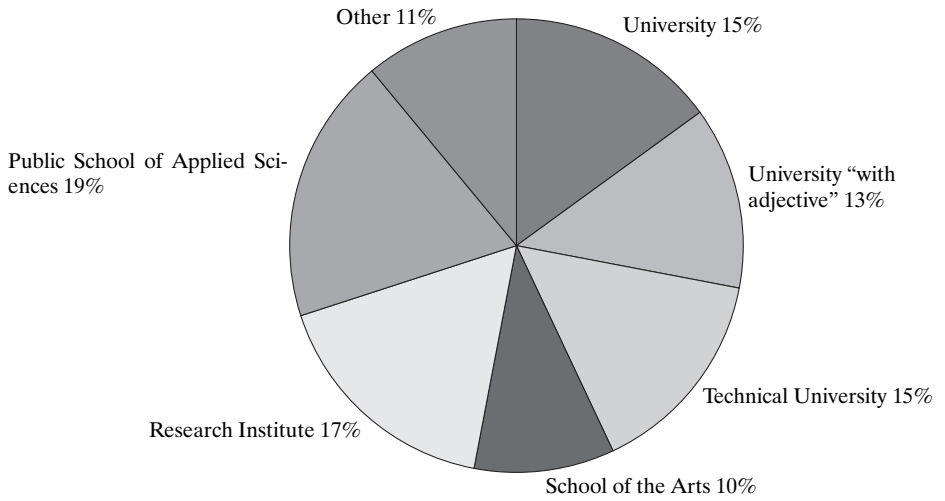
If we consider an individual foreign academic (and not an academic institution) as a unit of analysis, we shall see again that most of them are employed by public "universities with no adjective" (800 people), and then technical schools (283), other "universities with adjective" (92), research institutes (72), Public Schools of Applied Sciences (63) and art schools (46). 576 foreigners were employed by the remaining public schools (like for instance military schools) and by non-public schools.

Among the foreign employees of "universities with no adjective" we have mostly found people without an academic degree or title (390). In this kind of schools, there is, moreover, a group of 229 PhDs with habilitation and professors with title, as well as a group of 181 PhDs. The largest national category in this kind of school is constituted by Ukrainians (97 out of 398 Ukrainian academics working in Poland); followed by foreigners with Polish ID (54 out of 114); Germans (47 out of 119); the British (30 out of 52); Slovaks (27 out of 138); Czechs (26 out of 89); Byelorussians (26 out of 102); Lithuanians (26 out of 38); Americans (25 out of 51); Russians (22 out of 90); Italians

[18] What we mean here is six academies of physical education, five military and naval academies, one Academy for Firefighters, as well as the Jan Długosz Academy in Częstochowa, the Special Education Academy in Warsaw, Pomerania Academy in Słupsk and Academy of Technology and Humanities in Bielsko-Biała.

Chart 2

Different types of schools and research institutes among Polish public schools and research institutes employing foreigners



(21 out of 33); Spaniards (19 out of 32); Chinese (18 out of 23); French (16 out of 29); Bulgarians (14 out of 16); Dutch (12 out of 15) and all Serbs (12) who work in the Polish academic system.

Among the employees of "universities with adjective" (other than technical schools) the largest group are PhDs with habilitation and professors with title (a total of 41), PhDs (33), and then foreigners with neither degree nor title. In these types of schools, the largest group (even if small in absolute numbers) was constituted by Ukrainians (19 out of 398) and Germans (10 out of 119).

Among the employees of technical schools, academics enjoying at least the habilitation degree are most numerous (156), like in other "universities with adjective." Their number nearly doubles the sum of PhDs (46) and academics without a title and degree (36). The national composition in this kind of school runs as follows: Ukrainians (74); Byelorussians (14); and Slovaks, Germans and foreigners with Polish ID (12 in each case). The overwhelming majority, as we can see, are immigrants from the former Eastern Bloc.

In art schools, again, the largest numbers are immigrant academics with at least the habilitation degree (22). Foreigners without title or degree (17) are more numerous than PhDs (7). This is, most likely connected with the specific character of higher education in the field of art, where academic degree or title is not the necessary precondition for teaching students. The largest numbers of foreign academics are Germans (10 out of 119); Ukrainians (7 out of 398); foreigners with Polish ID (5 out of 114); Byelorussians (3 out of 102) and Czechs (3 out of 89). There are also individual "representatives" of other countries.

In research institutes, the largest category of foreigners is the PhDs (39), and then employees without the academic title or degree (17), PhDs with habilitation and

professors with a title (16 combined). Our hypothesis that foreigners without a title or degree are mostly language teachers does not hold true in this case (these teachers are not necessary in research institutes). The largest group here were foreigners with Polish ID (11 out of 114).

The structure of the set of foreign employees in the Public Schools of Applied Sciences is similar to that of the art schools. In 2012, in the former type of institutions there were 32 immigrant PhDs with habilitation and professors with a title; 17 academics without the title or degree and 14 PhDs. Ukrainians (24) dominated and then came Slovaks (5); Czechs (4); foreigners with Polish ID (4); and Germans (3). Therefore, the overwhelming majority of them were people coming from the former Eastern Bloc.

Among the foreign employees of other public schools, the largest group is constituted by PhDs with habilitation and professors with title (40). There work also 17 PhDs and 10 academics without title and degree in these schools. In this category of schools, most of foreigners were experts in the field of technology (12); social sciences (5); and physical education (4). The largest national groups were Ukrainians (15); Byelorussians (13) and Slovaks (8).

From the point of view of the regional distribution of schools employing foreigners, the largest category are schools in the Mazowieckie Voivodeship (26%), which obviously results from the fact that Warsaw, the largest city, dominates in the Polish academic system. Next is the Silesian Voivodeship (10% of schools) which is also a strong academic centre; the Wielkopolskie and the Dolnoslaskie (each with 8%). The Malopolskie Voivodeship, another strong academic centre, was behind the above-mentioned regions.

The picture is a little different when we consider the numbers of individual foreigners working in schools in each of the regions. The Mazowieckie Voivodeship is still the leader with 397 foreign academics, the Malopolskie comes in second with half the number of immigrants as the Mazowsze (182). Next is the Śląskie (167), the Wielkopolskie (158), the Dolnośląskie (126), the Zachodniopomorskie (123), the Podkarpackie (95), the Kujawsko-Pomorskie (120), the Łódzkie and the Podlaskie (84 in each), the Pomorskie (80), the Opolskie (53), the Świętokrzyskie (60), the Warmińsko-Mazurskie (43) and lastly the Lubuskie (26).

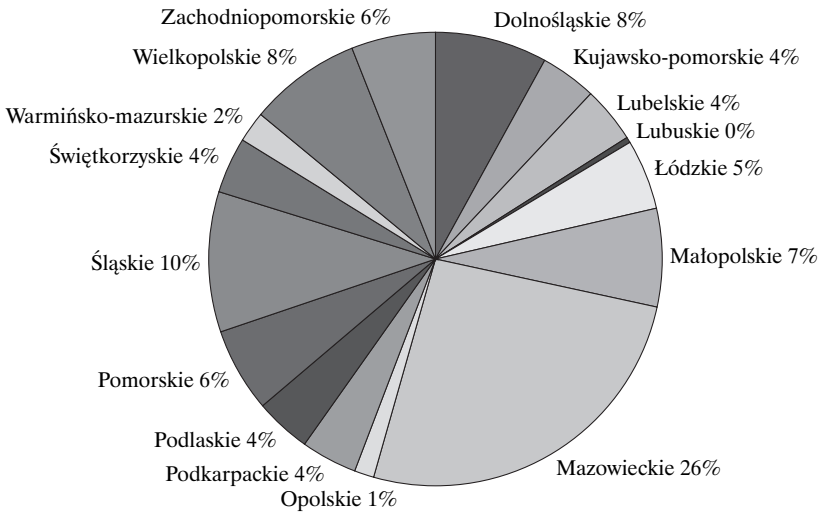
Research Disciplines Represented by Foreign Academics Working in Poland

The ministerial SIoSW database contains the breakdown of the set of immigrant academics into 38 academic disciplines. The typology is not disjunctive which makes it difficult to do a clear, reliable, substantive analyses. According to the database, the largest numbers of foreigners work in the field of humanities (365), technical sciences (166) and economics (139). We cannot be sure how these very general fields were defined by the Ministry.

Being aware of the "risk" of such a procedure, we have aggregated the 38 disciplines into two large categories: "social sciences and humanities" and "exact, natural and technical sciences." From among 1,887 immigrant academics, 629 specialized

Chart 3

Schools employing foreigners by regions (Voivodships)



in social sciences and humanities and 426 in the other large field. The Ministry did not have information about the specialty of 832 academics. The first group found employment in 178 schools and the second in 119 schools.

Nationality of Foreign Academics Working in Poland and the Schools Employing them. Are Foreigners of the same Nationality Concentrated in some Polish schools?

The answer to the question asked in the title of this section is not easy. We can show how the situation looks in the case of the most numerous national groups. There is a positive correlation in relation to Byelorussians, Russians, Lithuanians and Ukrainians. It is very weak in relation to Germans, and it does not exist in relation to Czechs, Slovaks, Americans and the British.

The School of International and Regional Cooperation in Wołomin (central Poland) employs 12 (out of 102) Byelorussians. The remaining 90 Byelorussians work in 41 Polish schools (see: Table 1). The same school employs 11 (out of 90) Russians. The remaining 79 Russians work in 50 other schools. Out of 38 Lithuanians, 18 work at the University of Białystok (north-east of Poland, close to the Lithuanian border), and 21 work in the whole Podlaskie Voivodeship where Białystok is located. The remaining 17 Lithuanians work in 13 other schools in other regions of Poland. Two schools (Rzeszów University, southeast of Poland, close to the Ukrainian and Slovak borders and the School of Management in Legnica in western Poland) employ 18 Ukrainians each. The remaining 362 Ukrainians work in 150 schools.

Germans are not highly concentrated, but in Wrocław and Zielona Góra (both in western Poland) their numbers (8 in each case) are "relatively large." Altogether,

there are 119 Germans in the Polish academic system. Nearly 100 of them work in 50 schools. Out of 89 Czechs, 7 work at the University of Silesia. More than 80 Czechs work in 51 Polish schools. The largest number of Slovaks (12) works at Rzeszów University. The remaining 126 Slovaks work in 65 Polish schools. Warsaw University employs 10 Americans. The remaining 41 of them work in 29 schools. Adam Mickiewicz University in Poznań (western Poland) employs 8 British academics. The remaining 44 British individuals work in 28 schools.

The Number of Employed Foreign Academics and the School's Position in the Polish Academic Ranking

It seems to be an interesting question whether the number of employed immigrants correlates with the position of a given employer-school within the rankings of Polish institutions of higher education. Therefore, we analysed the rankings published jointly by the *Perspektywy* monthly and the *Rzeczpospolita* daily in May 2012.[19] Polish schools were divided into three categories, so three different rankings emerged: "ranking of schools of applied sciences, including the Public Schools of Applied Sciences," "ranking of non-public schools offering master's programmes,"[20] and the "ranking of academic schools." The following factors determined the position of a school in the rankings: its prestige (25%); its innovative character (5%); its research potential (15%); its research effectiveness (30%), its facilities available for students (10%) and its internationalization (15%).[21]

The latter factor was measured in a way which does not influence or question our analyses and comparisons. The factors important for the internationalization of individual schools were: curricula in foreign languages (4%); number of students participating in classes in foreign languages (3%); international exchange of students (the total being 4%: 2% for outgoing students and 2% for incoming students); the multicultural character of the student activities (1%) and percentage of foreign academic teachers (1%). Therefore, what is interesting in this article—foreign academics—constituted only 1 out of 15 percent of the "internationalization factor."

In the ranking of schools of applied sciences (public and non-public), 72 institutions were listed, but in the ministerial SIoSW base we have found only 27 of them. This most likely means that 45 out of 72 (63%) relatively good (otherwise they would not be included in the ranking) schools do not employ any foreigner. Together, the remaining 27 schools employ 67 foreign academics, and among them 37 are PhDs with habilitation, 18 are PhDs and 12, according to the Ministry, have neither an academic title nor degree. We did not find any clear regularity related to the research fields (or disciplines) of these academics, as they were presented in the database. However,

[19] This ranking is available at: http://www.perspektywy.pl/index.php?option=com_content&task=blogcategory&id=358&Itemid=906 [20 January 2012].

[20] Some of these schools, like the Warsaw School of Social Psychology, were also analyzed in the ranking of academic schools.

[21] Detailed information on methodology and applied coefficients are available at: http://www.perspektywy.pl/index.php?option=com_content&task=view&id=5053&Itemid=906 [20 January 2012].

there is a clear "overrepresentation" of Ukrainians (21), Byelorussians and Slovaks (8 in each case) in this group of schools.

The ranking of schools with the master's programmes embraces 93 non-public institutions. Only 20 schools listed in the ranking were not present in the SIoSW database. In the remaining 73 institutions, there are 339 academics coming from abroad. Among them, there are 221 people with habilitation or academic title (professors), 67 PhDs and 51 persons without a title or degree. Schools of this type employ the largest group of Ukrainians (101 out of 398 working in the Polish academic system); Slovaks (58 out of 138); Czechs (27 out of 89); Germans (27 out of 199); Russians (21 out of 90) and foreigners holding Polish ID (18 out of 114).

The ranking of academic schools lists 88 public and non-public institutions. Among them, there is not a single immigrant academic in only 11 schools. These are mostly medical universities or academies (5), two Roman Catholic schools located in Kraków (The John Paul II Papal University and the "Ignatianum"—School of Philosophy and Education), one military school and one academy of physical education,[22] as well as two other non-public schools (Warsaw's: Collegium Civitas and the Academy of Finance). The remaining academic schools employ 1,258 immigrants together, including 502 PhDs with habilitation and/or a professorial title; 292 PhDs; and 464 persons without a title or degree. Among these 1,258 people, there are all Chinese (23) and Serbs (12) from the dataset; a large majority of the Dutch (14 out of 15); Americans (41 out of 51); British (45 out of 52); Bulgarians (16 out of 18); Spaniards (25 out of 32); French (24 out of 29); as well as majority of Byelorussians (58 out of 102); Czechs (51 out of 89); Lithuanians (29 out of 38); Germans (82 out of 119); foreigners holding Polish ID (75 out of 114); Ukrainians (212 out of 398); Italians (29 out of 33).[23] Only Slovaks (61 out of 138) and Russians (40 out of 90) were represented here to a smaller degree than in other categories of schools analysed by "Perspektywy" and "Rzeczpospolita."

Conclusions

The data presented in this article is solely quantitative in character. It talks only about the numbers of foreigners in various institutions and their types. In our opinion, it is very difficult (but perhaps possible) to offer a more precise qualitative analysis based on the information contained in the SioSW database. It is, again, difficult to link this particular set of information with all important processes taking place within the overlapping Polish systems of science production and higher education, such as the dynamics of research projects in particular fields, or the dynamics of legal regulations of higher education. We do not have the reliable historical data concerning the immigration of academics to Poland. Historical data (in particular

[22] We mean here the Bronisław Czech Academy of Physical Education. Our own qualitative analysis (see: Mucha 2012) shows that this school in fact employs at least one foreign academic.

[23] In this calculation, all nationalities were taken into account if they were represented by at least ten academics employed in this group of schools.

data referring to the post-1989 period) concerning the dynamics of legal possibilities to include immigrants into the minimum number of academics in the BA, MA and PhD programmes are obviously easily available, but that kind of analysis was not the topic of this article. Quantitative and qualitative studies of particular institutions of research and higher education (even of all of them) are possible and we intend to concentrate on them soon.

In comparison to many Western countries and some countries of the global East (see, e.g., Yeoh and Eng 2008; Yeoh and Yap 2008), the Polish academic system is not very attractive to foreigners from some "objective" points of view. The low participation of immigrants in the whole category of researchers and academic teachers in Poland, in the context where formal barriers are lower than in some Western European countries with higher percentage of foreigners in science, is an indirect (but strong in our opinion) proof of that. Relatively low salaries of academics can be one of the explanations. These salaries in Central Europe are much lower than salaries of people with similar qualifications in Western Europe, however, they are higher than in Eastern Europe and in the so-called "developing countries" (see: Table 1). According to the report by the Laboratory for Institutional Analysis at the Higher School of Economics in Moscow, and by the Boston College Center for International Higher Education,[24] based on the analysis of 28 systems of higher education in various countries throughout the world during the period of 2006–2010, the highest income was earned by academics employed at public schools in Canada (depending on the position they could earn between 5,733–9,485 USD monthly). The worst was the situation for academics coming from public schools in China and the former Soviet Union. In China, we are talking about 259–1,107 USD and between 405–665 USD in Armenia (the difference between the purchasing power of the USD between Canada and, for instance, China is obvious and will not be discussed here). Poland is not mentioned in the report in question. We assumed that the income of Polish academics was similar to the income of academics working in state institutions of higher education in the Czech Republic (1,642–3,967 USD) or in Latvia (1,087–2,654 USD). To compare, in Germany the lowest salary equalled 4,885 USD and the highest was 6,383 USD. The research team for the European University Institute[25] in Florence did a similar comparison. Its findings did not deviate significantly from the Moscow-Boston study but the advantage was that they included Poland. According to the EUI, in the 2006/2007 academic year, the average Polish full professor earned 1,758 Euros,[26] while the average senior lecturer and junior professor earned 1,127 Euros, and average assistant professors and assistants earned 586 Euros. To compare, in the equivalent positions, the salaries were: in Germany—4,546 Euros; 3,744 Euros and 3,277 Euros; in Canada—7,145 Euros, 6,096 Euros and 4,856 Euros; while in Ukraine—1,000 Euros, 400 Euros and 200 Euros. Therefore, if we take only salaries into account, we can

[24] Source: http://acarem.hse.ru [25 April 2013].

[25] Source: http://www.eui.eu/ProgrammesAndFellowships/AcademicCareersObservatory/CareerComparisons/SalaryComparisons.aspx [26 April 2013]. Another (than presented before) currency is taken into account here, but, we are interested here in international comparisons and not in absolute numbers.

[26] The Euro is stronger than the USD. All salaries in this section are monthly salaries.

see that Poland is quite attractive to Ukrainians (also Russians, Byelorussians, etc.) but is not attractive to Western academics. It should be added, though, that numerous Polish schools give their foreign academic teachers special bonuses,[27] but they hardly make up the average differences presented above. For people whose whole process of education took place in English speaking countries, and who are employed in Poland in junior academic positions, there are, easily available, additional sources of income (translations, copy editing of various kinds of texts, etc.). We should also repeat what was said at the beginning of this article—for academics, the individual income differences are only one of many motives to migrate.

The data contained in the SioSW database does not tell us anything about the motivations of foreigners who eventually came to Poland. We do not know their opinions on the Polish legal system (with regard to the employment of foreign nationals, to the visa system, etc.), on the Polish academic system, on the Polish research libraries and laboratories, on the *tacit* knowledge to be gained, on the attractiveness of living in Polish cities, on the openness of Poles to "others," on the family they brought (or did not bring) with them, on their ethnic communities in Poland, on their religious life, etc. These are important issues that must be studied using completely different databases and methodological instruments.

Among the foreign academics employed in Poland, the "neighbours"—people coming from the neighbouring countries—dominate. In addition, there are a relatively large number of Americans and the British as well. We presume that they are mostly English language teachers.

Most foreign academics work in the Mazowieckie Voivodeship, where Warsaw, the national capital and the stronger centre of research and higher education, is the dominant city. At the same time, one should pay attention to the fact that academics coming from a particular country are concentrated fairly often in a particular Polish region (like Lithuanians in Bialystok). Due to the fact that most of these cities are located very close to the borders with their countries, we can presume that they are commuting to work in Poland.

In Poland, foreigners mostly work in public institutions. Non-public institutions employ about one third of the number of immigrants working in the public sector. Only 43% of Polish non-public schools, as compared to 93% of public schools, employ foreigners. Among the public institutions, universities without adjective dominate (42% of all immigrants work in them).

When we compare our data with the rankings done by "Perspektywy" and "Rzeczpospolita," we can see that the largest groups of foreigners work in the best schools, those with at least the MA (or equivalent) programmes. Schools of applied sciences, even the best, employ significantly smaller numbers of them.

A large part of the group of foreigners (47%) are academics with habilitation, and many (23%) are PhDs without habilitation. Our hypothesis is that they are needed in the Polish system of higher education in order to meet the condition of a minimum number of PhDs and PhDs with habilitation to run the BA and MA programmes.

[27] We know about that from our participant observation and from conversations with our colleagues throughout Poland but we cannot quote any "hard data."

This hypothesis is corroborated by the fact that the non-public institutions employ relatively larger numbers of immigrants with habilitation or professorial titles than the public schools (68% to 54% in relation to all immigrants working there). At the same time, nearly one third of all foreigners working in the Polish academic system have neither an academic degree nor academic title. Most of them work in the "universities without adjective" or in art schools. Our guess is that they are mostly language teachers or instructors.

Our official data, due to its character, does not allow us to comment on numerous important issues, indicated in the initial sections of this paper. However, if it makes sense to compare global data from 2001 with Polish data from 2011, Poland would would be ranked between Germany and the Netherlands, concerning the proportion of immigrants in the whole set of researchers and academic teachers. We cannot, based on the SIoSW database, relate to the issue of the "brain drain," or "brain circulation" (which would be particularly interesting in the case of Ukraine). We do not know the motivations of academics coming from rich Western countries. We do not know other important things about immigrant academics, like the actual length of their stay in Poland, their plans for the future, the dynamics of their career, their contacts with the academic system in their country of origin, etc. We believe that they are "proactive" migrants. We also believe that they belong to only two revised types distinguished by Rafael Alarcon: some are perhaps foreign graduates at Polish universities, some are perhaps "academic *braceros*," which can refer mostly to academics with no title nor degree.

A lot is to be done, in terms of future research.

References

Ackers, Louise and Bryony, Gill. 2008. *Moving People and Knowledge. Scientific Mobility in an Enlarging European Union*. Cheltenham, UK and Northampton, MA: Edward Elgar.

Alarcon, Rafael. 1999. Recruitment Processes Among Foreign-Born Engineers and Scientists in Silicon Valley. *American Behavioral Scientist* (42) 9: 1381–1397.

Baruch, Yehuda, Budhwar, Pawan S. and Khatri, Naresh. 2007. Brain drain: Inclinations to Stay abroad after Studies. *Journal of World Business* (42) 1: 99–112.

Fontes, Margarida. 2007. Scientific mobility policies: how Portuguese scientists envisage the return Home. *Science and Public Policy* (34) 4: 284–298.

Frascati. 2010. *Proponowane procedury standardowe dla badań statystycznych w zakresie działalności badawczo-rozwojowej. Pomiary naukowych i technologicznych zastosowań. Podręcznik Frascati 2002* (Suggested Standard Procedures for Statistical Research in the Field of Research and Development Activities. Measuring the Scientific and Technological Applications), Organizacja Współpracy Gospodarczej i Rozwoju (OECD), available: http://www.nauka.gov.pl/fileadmin/user_upload/Nauka/Polityka_naukowa_panstwa/Analizy_raporty_statystyki/20100113_Podrecznik_Frascati_2002.pdf (26 April 2013).

Hart, David M. 2007. Understanding Immigration in a National Systems of Innovation Framework. *Science and Public Policy* (34) 1: 45–53.

Jałowiecki, Bohdan and Gorzelak, Grzegorz J. 2004. *Brain Drain, Brain Gain, and Mobility: Theories and Prospective Methods*. *Higher Education in Europe* (XXIX) 3: 299–308.

Kaczmarczyk, Paweł and Okólski, Marek. 2005. *Migracje specjalistów wysokiej klasy w kontekście członkostwa Polski w Unii Europejskiej* (Migration of Highly Skilled Specialists in the Context of Polands Membership in the European Union). Warszawa: Urząd Komitetu Integracji Europejskiej.

K i m, Dongbin, W o l f - W e n d e l, Lisa and T w o m b l y, Susan. 2011. International Faculty: Experiences of Academic Life and Productivity in U.S. Universities. *The Journal of Higher Education* (82) 6: 720–747.

M u c h a, Janusz. 2013. Współczesne zjawiska migracji uczonych a «sprawa polska» (Contemporary migration of scholars and the "Polish Question"), *Studia Migracyjne—Przegląd Polonijny* (39) 1: 59–76.

R i c h m o n d, Anthony H. 1994. *Global Apartheid. Refugees, Racism, and the New World Order*. Toronto et al.: Oxford University Press.

SIoSW. 2012. *System informacji o szkolnictwie wyższym*, stan danych na dzień 21.11.2012 r. [Information system on higher education, as of 21st November 2012; a file obtained from the Ministry of Science and Higher Education in Poland].

Y e o h, Brenda S.A. and A h E n g, Lai. 2008. Guest Editors, Introduction: 'Talent' migration in and out of Asia: challenges for policies and planes. *Asian Population Studies* (4) 3: 235–245.

Y e o h, Brenda S.A. and Y a p, Natalie. 2008. Gateway Singapore. Immigration Policies, Differential (Non)incorporation, and Identity Politics, in: Marie Price and Lisa Benton-Short (eds.), *Migrants to the Metropolis. The Rise of Immigrant Gateway Cities*. Syracuse: Syracuse University Press, pp. 177–202.

Biographical Notes:

Janusz Mucha is Professor of Sociology. He works at the Faculty of Humanities, AGH University of Science and Technology in Krakow, Poland. He is interested in minority studies, social theory, Central and Eastern Europe, social aspects of technology and intergenerational relations. Author of many books and articles.

E-mail: jmucha@post.pl

Kamil Łuczaj is a Ph.D. candidate at the Jagiellonian University. His academic interests cover areas such as cultural sociology, sociology of art, and history of ideas. He participated in many qualitative and quantitative research projects.

E-mail: kamil.luczaj@gmail.com