

## **PART 5. FLOWS AND NON-EU EUROPE**

**Poland**



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## Poland<sup>1</sup>

### 1. Introduction

The outflow from Poland that started in mid-19th century and, especially, the movement in the second half of last century is key to understanding recent migration. Historically, Poles have displayed a great propensity to emigrate. Important emigration waves began in 1860 and 1890. The emigration was driven by socio-economic underdevelopment, overpopulation and insufficient demand for labour by industry. According to estimates, between 1860-1940 approximately 5.5 to 6 million Poles settled abroad, one third of them in the US. Some 20-30% returned to Poland. (There were also massive deportations between 1864 and 1915 as well as between 1939 and 1945) (ISS 1999). In recent times, the scale of immigration was not considerable and consisted almost exclusively of Poles returning to their homeland.

In 19<sup>th</sup> century, over production of highly skilled persons compared to available posts in research and education, public administration and business caused migration to other countries, and resulted in a waste of talents of persons overqualified for their posts or engagement in revolutionary movements. From 1945 until the late 1980s, population movements to and from Poland were controlled by the state. In the first half of 1950s, international movements from and to Poland were stopped whereas between mid-1950s and the end of 1980s the movements were restricted. Individual freedom of foreign travel was restrained (although after 1956 the restrictions were not as severe as in other communist countries, except Hungary after 1960). In the second half of 1950s, ethnic Poles and Jews were repatriated from the USSR to Poland, and ethnic Germans and Jews migrated from Poland to Germany and Israel. Some 20,000 Jews, almost all of them highly qualified specialists, left Poland as a result of an anti-Semitic campaign in 1968, (ISS 1999b).

In the early 1970s, the laws regulating foreign travel of Polish citizens were liberalised and this gave rise to a new mass-scale migration from Poland. In a relatively short time, several major types of outflow emerged. There was the emigration of individuals who declared their German origin or ethnicity, and received privileged treatment from West German authorities. A second flow was emigration to countries with a large and active Polish diaspora, mainly to the US. The third type of flow, initiated on a large scale in 1980, involved Poles who went abroad to settle and who applied for political asylum in the West. The fourth type was incomplete migration of individuals who officially called themselves tourists and who circulated between Poland and other countries in a shuttle manner, making use of the unbalanced Polish market (distorted price relations between Poland and the global markets and the extraordinary purchasing power of Western currencies in Poland). The fifth type was that of classic migrant workers: Polish expatriates sent to work abroad or employed there under a contract negotiated through an authorised Polish State agency. Germany and the US attracted about three-fourths of all migrants (except for shuttle travellers, who chose many other countries as well).

During 1970s, about 300,000 people left Poland; over half of those settled in West Germany. From 1980 to 1989, some 1.1 to 1.4 million people left Poland to stay abroad for a long time, and about 1 to 1.1 million for short-term migration (ISS 1999). The 1980s were a decade of a rapid increase in the outflow of labour from Poland. This was the decade revitalising old networks and establishing new networks, and acquiring experience in international

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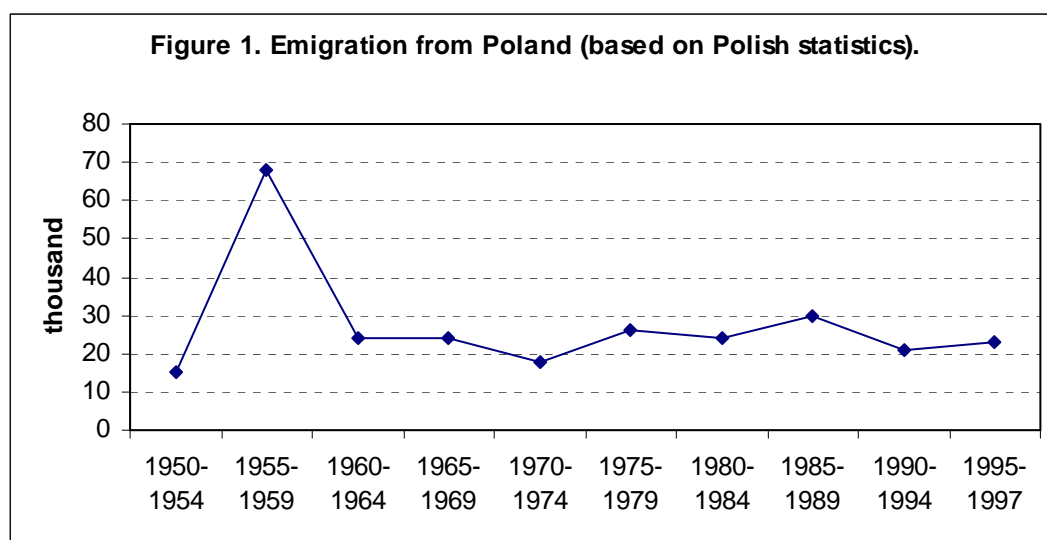
<sup>1</sup> This paper was prepared by Jan Kozłowski and coordinated by IKU for the project *The Brain Drain — Emigration Flows for Qualified Scientists*

migration by large masses of the population of Poland. As surveys reveal, from one third to a half of households, depending on the region, were engaged in at least one of form of migration (ISS 1999b).

The second half of the 1980s and the all through the 1990s, especially after 1989, have seen changes in the kind, form and directions of migration. Whereas before 1989 most Poles employed abroad worked in COMECON countries and, to a lesser extent, in Middle East, in 1990s emigration paths lead mostly to the western countries. In particular, many Poles sought work in Germany (Marek 1998). Since 1989, the Polish government has taken a number of steps aiming at bringing its migration policy up to standards that have been in international law for a long time, as well as those emerging more recently in Western Europe (Wlodek 1996).

The collapse of the rigid system and the full liberalisation of migration policy did not lead to massive emigration from Poland. Migration remained a domain of Poles from highly developed, urbanised and industrialised regions of Poland. The most important settlement destinations i.e. Germany, US and Canada, remained the same. These three countries absorbed 90% of all emigrants (70%, 11% and 7%, respectively, in 1998) (ISS 2000b).

In 1990-97 approximately 176,000 Poles emigrated to settle abroad, which was almost 100,000 fewer than in 1980s. Since 1995, the number of emigrants has been decreasing. In 1997, slightly more than 20,000 people left Poland. According to other European statistics, in 1995/1996 there were 365,000 of Polish citizens in Europe. According to Eurostat data, at the end of 1992, approximately 443,000 Poles lived in the 19 EU and EFTA countries. Statistics of individual countries show that most Poles lived in Germany (approximately 285,000), in France (47,000) and Sweden (16,000), and outside Europe a large group of Poles are in Canada (number close to that for Germany) and the US (Migracje 1998) (Figure 1).



For many years, Poland has had a negative balance of foreign migration. Between the end of World War II and late 1980s, the number of Poles leaving the country to settle abroad did not exceed 35,000-40,000 per annum. From the beginning of 1960s until the beginning of 1990s, the immigration flows to Poland were statistically insignificant. However, one of the existing and visible inflows was the movement of Vietnamese students who arrived in Poland under a government-sponsored 'socialist co-operation' program or academic exchange (ISS 2000b). After graduation, the majority returned home but the once-established ties led to the

formation of a large Vietnamese diaspora in Poland, active mainly in small trade and catering services. Armenians are also among other relatively large ethnic groups. Most of them are well-educated people but they rarely find employment commensurate with their qualifications (ISS 2000b). In mid-1996 the settlement of Kazakhs of Polish ancestry from Kazakhstan to Poland was set in motion. However, education of immigrants from Kazakhstan is under the country's average (ISS 1997).

## 2. Economic Indicators

Poland managed to overcome recession in a relatively short time and returned to rapid growth even though its macroeconomics situation in 1989 was much worse than that of many other transition countries. However, Poland was more advanced in many other areas, such as free market institutions, and had in place key pieces of legislation. For example, as a result of earlier reform attempts in the 1980s, Poland abandoned central planning, liberalised prices to a considerable extent, introduced partial convertibility of its currency and allowed free entrepreneurial activity (Rosati 2000).

Before 1989, CEE countries (in particular Poland and Hungary) were much more acquainted with the Western world than the countries of the former Soviet Union. This was due to the greater share of trade with the West in total trade balance and the (relative) freedom of travel and temporary migrations. Studies on new entrepreneurs in Poland show that the majority of new owners and managers (around 2 million) had acquired previous experience in the West (either as employees in old foreign trade agencies, or as employees of foreign firms during temporary migrations or as small-scale importers, or so called "suitcase traders"). Poland also had a long tradition of private ownership and small-scale private entrepreneurship. As a result, market concepts and associated behavioural patterns were more evident in Poland than in other countries, with the exception of Hungary and, possibly, Slovenia. New trading SMEs in Poland played an important role in the reorientation of Polish trade. Today, Western customers as well as co-operation with Western partners are the main variables explaining innovative approach applied by Polish managers (Herbst 2000).

During the last years, GDP growth has expanded at rates of 4% to 7% (1994-1999, but slowed since 2000), inflation has gradually declined and living standards have improved. This growth largely reflects the dynamism of the private sector, as opposed to the mediocre results of the bloated state-owned enterprises.

The situation on the Polish labour market deteriorated since 1999. Total employment shrunk to 18.2% (2002).

Foreign direct investment (FDI), regarded as one of the most important factors of economic recovery, has expanded since mid-1990s. Foreign investors initially focused on the domestic market, the largest in the region, and labour-intensive sectors, but they are likely to embark on exports to western markets and to become involved in activities with a higher technological content. There was a shift in FDI in Poland during 1990s (from food industry, through labour- and capital-intensive branches to services) connected with privatisation policy. Based on the analysis of categories characterizing the activities of entities with foreign participation such as the number of entities, employment, revenues from all activities and from exports, investment outlays, fixed and working capital assets, own and outside capital, the share of companies with foreign participation in the Polish economy can be estimated at 30%. More than 30 major transnational corporations are currently active in Poland. Compared to

domestic investments, FDI is characterised by slightly higher innovation rates (Figure 2).



Source: Annual Main Statistical Yearbook

### 3. Demographic, Education and R&D Indicators

Poland, with a population of 38.6 million, has a gross domestic product (GDP) of more than ECU 388 billion (expressed in purchasing power parity); the size of its population is close to 10% of the EU population, while the size of its economy is only about 3% of that of the EU. GDP per capita is about 30% of the EU average, in purchasing power terms. Polish GERD compared to world GERD amounts to about 0.4% (which equals to 1/3 of the General Motors expenditures on R&D), the number of publications amounts to about 0.95% of world publications (and equals the number of Harvard University papers) and the number of patents equals to less than 0.4% of the world patent production.

Poland's share in global economy is slightly higher than its share in the world's population (both approximately 0.66%). The share in global research production (0.95%) is clearly higher but the shares in research paper citation volume (0.5%), ISO 9,000 licences and patent applications filed by residents (each 0.3%) are significantly lower.

In 2001, Poland's GERD was equivalent to 0.4% of outlays made by OECD, 0.9% by the USA, 1.4% by the EU, 4.8% of outlays made by Germany, 31% by Spain, 97% by Norway. Yet it was nearly twice as high as the GERD value for Portugal and for Hungary. The share of Polish researchers among all researchers from OECD countries is 1.8, which is four times as much as Poland's share in R&D spending.

Government R&D outlays-to-GDP ratio for Poland (approx. 0.4%) does not differ from the EU average as much as the R&D outlays-to-GDP (0.7%). In developed economies industry funding prevails over government funding. In contrast, government funding prevails in Poland. Per capita R&D expenditures in Poland (US\$ 67 PPP, 2001) are much lower than those in developed economies. (Among OECD countries Poland outperforms only Mexico with 34 and Turkey with 38; for the sake of comparison, the respective figure for the US is 963, for UK – 453, for Italy – 249, and for Hungary – 100, in US\$ PPP) (OECD 2002). The share of high-tech products in exports of Poland's processing sector, considered a technological advancement indicator, amounts to 5.9% which is close to figures for Greece, Turkey and

Slovakia.

Between 1970 and 2001, the share of population with higher education level increased in Poland from 2% to 12%. During the 1990s, the number of tertiary education students per 10,000 citizens was 2.6 times higher than in 1990. However, indices based on formal educational statistics do not suffice to assess the capabilities of the people to cope with various everyday situations in the contemporary world with its modern ways of communication, banking services and ways of using information helpful in health care, in job search, in self-education etc. According to tests conducted within OECD and EU comparative research projects, Poland's adult population has relatively (as compared to other OECD countries) insufficient qualifications to use written information in coping with every day problems (Porwit 2000). The number of adults performing below adequate literacy threshold is still greater than in EU countries and so literacy among workers (OECD 1998). Also cultural differentiation is much stronger in Poland than in Western countries. Poles with tertiary education read almost the same number of books as citizens of Western countries, but Poles who have ended their education at the first or second education level read less. Moreover, those groups are much more numerous than their better educated compatriots (Bialecki 1997).

Surveys of local communities show a very high correlation between social mobilisation (measured by the number of social and political organisations), economic mobilisation (measured by the growth of a new private enterprises), level of education, level of political participation and the absorptiveness of foreign influences.

## **4. Outflow from Poland**

### **4.1. Outflow of Highly Skilled Workers from Poland in 1990.**

There was a clear decrease in emigration among Poles with university degrees in 1990s, both in absolute terms and as a percentage of all emigrants. The percentage of emigrating tertiary degree holders among permanent-residence emigrants is lower than the country's average. During 1990s it fell from 3.6% (1990) to 1.2% (2001). This drop could be viewed as a sign of growing intellectual labour market in Poland (GUS 2002) that up to now has allowed such individuals to find a job at the domestic market. For example, Polish IT experts were not very interested in getting green cards allowing foreigners to find employment in Germany ("Metropol" 3 July, 2001). However, the data above should be used with caution and are not considered as completely reliable (Migracje 1998); data published in recipient countries often contradict them (see e.g. HWWA 2000, IPTS 2003).

In 1996/97, 19,600 Poles worked in Germany on a contractual basis. Approximately 3,000 Poles were employed in the UK as specialists, mostly in companies with a trade relationship with Poland (in banking, insurance, trade and marketing sectors) (Marek 1998). Probably, more have been working illegally. Poles who take up jobs abroad are usually employed as labourers, in less attractive job market segments, in low-paying industries. Employment in construction industry such as contracted work in Germany is an exception to this. Poles usually work on farms, picking fruits, forest fruit and mushrooms, in restaurants and hotels; in forestry; in processing, housekeeping etc. Few of these jobs are prestigious. Only top-class work in building or art conservation, experts employed in culture and art departments, scientists and researchers, medical doctors or navy officers and pilots protecting large farms and forests earn fairly good income and usually enjoy good working conditions. An important

form of employment for Polish specialists in Germany is to perform specific tasks under a contract. Contracts usually concern construction works, equipment and machinery assembly, redecoration, insulation systems, they also perform conservation of arts and buildings (Marek 1998).

Compared to the average qualifications of German residents, the skill ratio (i.e. the share of highly qualified immigrants in the total number of immigrants) for Polish migrants to Germany (as well as from some other CEEC) was significantly above this value in 1992-94 (HWWA 2000). Also comparison with EU member states shows that the number of highly skilled immigrants from Poland and some other CEEC in the US is close to those from the UK and Germany (IPTS 2003). Therefore, it can be suggested, that Polish (and other CEEC) workers are often employed under their qualifications (comp. Fassmann).

Since 2001, Polish medical staff, i.e. medical doctors, dentists, nurses, find work in Norway on the basis of intergovernmental agreement. Individual contracts are signed for one year or longer (up to 4 years) (Marek 2001).

#### **4.2. Polish Researchers Abroad**

The only survey run by European Institute for Regional and Local Development at Warsaw University in 1992-1997 (number of responses: 1,003 questionnaires in 1992, 1,043 in 1994, 1,042 in 1997) shows that the 16 year period in question is significantly different in terms of proportions of individuals migrating abroad and moving over to other occupations within the country. Foreign migrations exceeded internal mobility in 1981-84, which was linked with the political situation at that time. In the subsequent period, foreign and domestic mobility ratios remained at similar levels. Thereafter foreign migration dropped, while domestic mobility increased. Finally, in 1994-96 both mobility indicators decreased. This stabilisation of labour market is accompanied by the phenomenon of many Poles holding multiple jobs. In 1981-1996 one in three emigrants went to the US, and one in seven went to Germany, one in twelve to Canada, one in sixteen to UK (Hryniewicz 1997). These results only partially overlap with data on international co-operation (Polish researchers much frequently co-operate with French colleges than emigrated to France and much more rarely settled in Canada than co-operated with Canadians). 22% of the surveyed sample of research emigrants worked in medicine, 20% - in humanities, 15% - in engineering sciences, 13% - in social sciences, 8% - in physics, 4% - in agricultural sciences. These results conform neither with the degree of internationalisation of different disciplines nor with their size or quality as measured by citation indices. The share of researchers from Polish Academy of Sciences institutes among emigrants is much higher than their share in total RSE in Poland. On the contrary, the share of government research units is much smaller (Hryniewicz 1997).

Polish immigrants were the 6th largest group of immigrants in Canada in 1996 (36,965 individuals, 3.6% of total immigrants). Also, there is a relatively strong inflow of Polish HRST to Sweden (3,283 between 1987 and 1998, compared to 5,303 from North America, and 10,293 from all Nordic Countries) (OECD 2001). According to NSF, in 1992 at least 500 scientists and engineers emigrated to US from Poland (Science and Engineering Indicators, 1993, p. 82). It is difficult to estimate whether this data is typical or atypical for subsequent years in 1990s. It needs to be stressed that these fragmentary data for Canada, Sweden and US are much higher than data obtained in previously cited sample survey.

There are many very important questions that could be posed but there are no empirical

studies to verify them: To what degree is student mobility a precursor of a subsequent migration among researchers and other highly qualified individuals? What role in research migration has been played by short-term mobility (conferences, scholarships)? What are the economic effects of mobility of students, researchers and all other highly skilled workers? What is the percentage of research emigrants who maintain frequent contacts with their home institutions (like e.g. one of the leading astronomers Aleksander Wolszczan, or the well known Polish historians and sociologists Krzysztof Pomian, Zygmunt Bauman or Andrzej Walicki) or are shuttling between their home and host countries? Does the mobility of researchers help upgrade the local science or does it only lead to islands of “international science” inside local and peripheral research environment? Does the mobility of researchers stem mainly from activity of international research networks or from EU state-supported exchange programs? Is the mobility of researchers connected with adoption of world science to local circumstances or with growth of mainstream ‘Western’ science inside Poland? Does external mobility of researchers crowd out the domestic one or stimulates it? Does increased mobility of highly skilled workers affect other elements of research system and how? Does social mobility modify the existing social stratification and legitimisation structures and mechanisms in science and technology, or is it mainly under control of research establishments? To what degree Polish researchers emigrate from closed ‘mandarin’ research system, full institutional rigidities, fiefdoms and watertight institutional barriers, nepotism and favouritism, or contrary, from those areas of Polish research system that are close to best Western practices? Does brain drain result in limited research opportunities (no access to equipment, data basis and contacts)? Or low salaries? Or desire to work in highly competent environment? Does brain drain stem from rigidity of social stratification and prolonged career paths? Or desire to work in highly competent environment, in “the organizational and management structures which make it possible to stimulate the scientist’s individual creativity, to build up efficient teams, with cross-fertilisation among teams and institutions”? Does brain drain stem from rigidity of social stratification and prolonged career paths? (Comp. IPTS 2001; OECD 2001).

Although there is no study providing empirical evidence, Polish research establishments blame the brain drain on the cuts in government spending on science. Young research emigrants, however, pointed to the blockage of their careers as a main reason for leaving country. Those who came back to Poland, after years spent at top Western universities, complain they are not eagerly accepted in research institutions and that their productivity diminishes because of less stimulating environment. A study based on “focus group” method revealed that in 1990s under the pending reduction of R&D financing, research establishments in many institutes cut funds earmarked for lower-rank researchers in order to maintain their own level of spending (Mobilnosc 1998). This might partly explain why young talented researchers tend to emigrate. Anecdotal evidence shows, that because of the relatively small disciplinary communities, relatively low level of interdisciplinary and research-industry mobility and barriers in geographical mobility (e.g. high costs of renting flats) young talented researchers that find their careers blocked in “feudal” system often cannot remove to other institutes, thus deciding to find engagement in other countries.

### 4.3 Polish Students Abroad

The share of Polish students enrolled abroad (per 1,000 students enrolled) is 10.8 (as compared to 5.1 for Czech Rep., 22.2 for Hungary, and 12.8 for Spain, data for 1998). Comparative data show that student mobility is correlated to economic performance of their home country. Also, the size of a country's population seems to reduce mobility. Over 80% of Polish students study at universities in EU countries (OECD 2001).

In early 1990s, the number of Poles studying in the Soviet Union, Bulgaria, Slovakia and Hungary rapidly decreased while the number of those studying in EU countries gradually increased. In 1996/97, 3,538 Poles studied abroad, most of them in the UK (548), France (450), Germany (343), the Netherlands (188), Belgium (170) and Italy (170). (Migracje 1998). European centres of Polish students mobility are not the same as centres of research co-operation gravity for Poland (dominated by Germany, followed by France, UK and Italy). Because of the lack of data it is hard to assess sources of financing used by Polish students abroad and to estimate to what degree student mobility is associated with subsequent emigration. However, EU funding schemes have become more and more popular in recent years.

## 5. Inflow to Poland

As Poland is geographically situated between countries of much higher (Germany) and much lower wealth (Ukraine, Belarus), the immigration structure is in part typical for developed countries (strong inflow, esp. from Ukraine, of individuals performing low-qualification jobs, like house keeping, child care, textiles production, construction industry etc.) and in part for developing ones (e.g. inflow of foreign managers and specialists for multinational companies). Ukrainians and Belarussians have usually jobs in Poland under their qualifications, as Poles in Germany or other Western countries.

In 2000, regional Labour Offices issued 17,802 work permits, out of which 70% for European residents, including 34% for EU citizens, 23% for citizens of Asia, 4% of North America, 1% of African and Pacific countries respectively and only 0.3% from South America.

### 5. 1. Highly Skilled Immigrants in Poland

“Before 1990 migrant labor was a rarity in Poland. Foreigners visiting Poland abstained from any economic activity, and a small number of those for whom Poland used to be a home country were either inactive (e.g. housewives) or dispersed across professions and sectors. Although the situation changed substantially after 1989, still the number of migrants gainfully employed in Poland is very low, lower than in certain much smaller countries, such as e.g. the Czech Republic and Hungary. Foreign citizens, once in Poland, resort to a wide variety of economic activities, which, however, either require high and highly specialized skills or do not require any skills at all. On the one hand, financial services, insurance or real estate agencies, investment or commercial banks, big industrial plants and supermarkets employ several thousand foreigners, usually at managerial or expert positions. On the other hand, migrants occupy a number of small labor market niches (certain segments of retail and wholesale trade and fast food, seasonal work in agriculture) and are engaged in street-corner or bazaar petty trade, night-bar entertainment, household services (child or elderly care, cleaning, etc.), builder or refurbishing odd jobs. That dichotomy is associated with a sharp

wage disparities among the migrant labor; on average the highly skilled earn more than Poles representing comparable qualifications and the low skilled earn less. The largest group of foreigners in the official labor market constitute Ukrainians and Belorussians followed by British, French and German. More than a half of migrants from Ukraine work in tiny trading firms, often owned by a family or as teachers, instructors and trainers. A large proportion of Belorussians and to a lower extent Ukrainians find jobs in subcontracting foreign companies, usually as manual workers. In contrast, migrants from the European Union are usually employed by medium-sized or large companies in manufacturing industry (especially German, French, Italian and Dutch), supermarket trade (especially French and German), real estate (especially British, German and French), education (especially British) and construction industry (especially French and, German)." (ISS 2003)

Despite the fact that total emigration exceeds immigration levels several times, the immigration of educated people is higher than that of educated emigrants. Polish experts have called this the "inverse brain drain". Also, it appears that the propensity for educated people to emigrate is declining, as possibilities for employment in the country are improving. In addition, about 10,000 foreigners have been granted work permits; such permits were almost unheard of before 1990. While these numbers are relatively small, their significance is undeniable for the development of entrepreneurship, improvement in the management and organization of economic processes, the revival of certain skills, such as banking and insurance, the emergence of professional specialities, e.g. investment consulting and marketing, and the development of recently neglected areas, such as catering, the hotel industry and trade (UN/ECE 1996). The job market for highly skilled professionals exist, above all, in large urban agglomerations, where the demand for and supply of specialists with university education is highest. Polish companies employ foreigners relatively rarely; also foreign companies operating in Poland usually employ Poles. Foreigners usually occupy the key managerial posts but this is not always the case. Some companies, such as ABB, have a policy of filling posts in local branches with local staff, even in key managerial posts. (Hryniewicz 1994).

Warsaw area proved to be most attractive for foreigners (8,160 of all foreigners employed in Poland in 1997, 53% of all permits), followed by Gdańsk, Katowice and Wrocław voivodships (regions). However, not all the foreigners who received work permits actually took up jobs in Poland (and *vice versa*) (Migracje 1998).

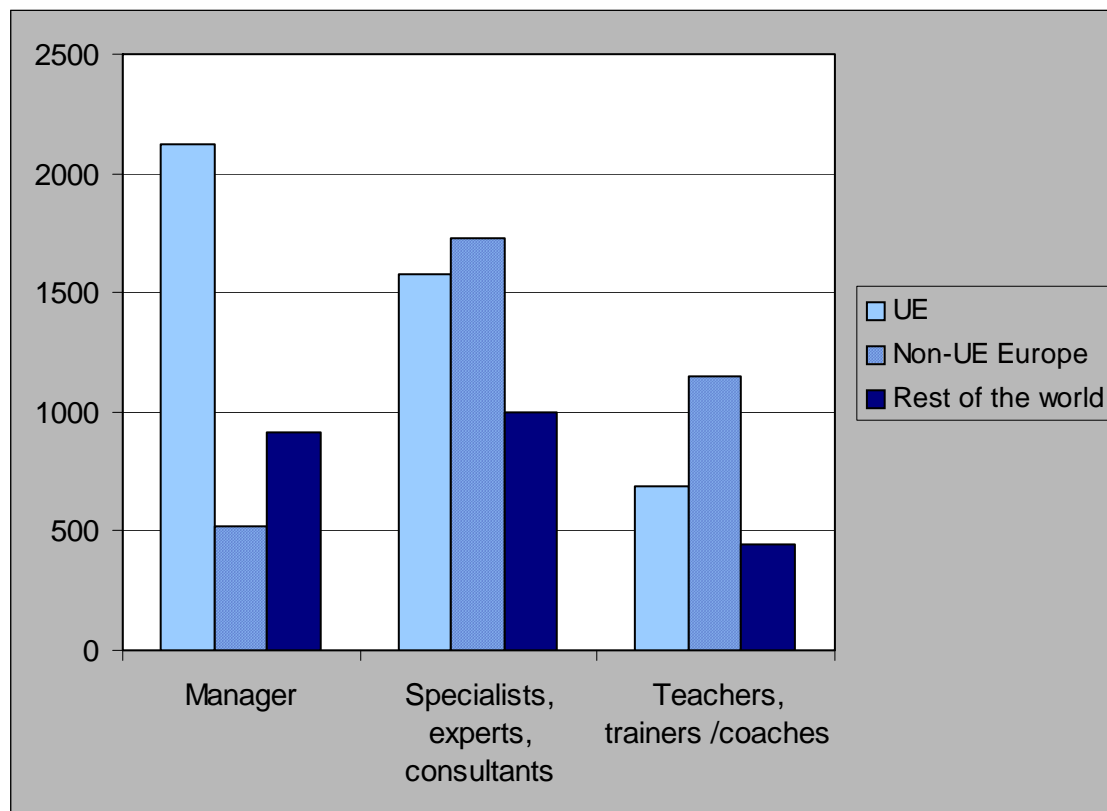
Foreigners are interested in more developed regions of Poland. Geographical preferences displayed by foreigners seeking and finding jobs in Poland almost exactly correspond with the ranking of voivodships (regions) in terms of their ability to attract foreign capital, developed by Institute of Market Economy Studies (IBGR 1998).

The inflow of the overwhelming majority of specialists occurred through private businesses, especially private foreign companies. Very broad classification used by National Labour Office does not allow for a detailed investigation. However, each group of specialists seems to have its own national structure. In 1997 Germans, Frenchmen, Americans and Italians dominated among managers (38%); most teachers, trainers and coaches were British (28%) and Ukrainian (24%). As regards managerial jobs, the largest number of permits were granted to Germans (445), French (440), British (320), Americans (257) and Italians (186). The largest number of permits holders in the specialist, expert and consultant category came from Ukraine (263), Germany (253), France (194), Russia (196) and South Korea (102) (Okolski 2000).

The last available National Labour Office report claims that in 2000 work permits in Poland were granted to 10,142 individuals within the groups of “managers”, “specialists, experts, consultants” and “teachers, trainers, coaches” Differences in national structure of each group could be easily seen from following graph (Zgody 2001).

In 2000, regional Labour Offices issued 10,031 work permits for individuals with a higher education degree, out of which 73% went to European residents, including 42% for EU citizens, 18% for Asians, 7% for North Americans, 1% for Africans and citizens of Pacific countries respectively and only 0.3% from South America (KUP 2001) (Figure 3).

**Figure 3. Distribution of work permits, Poland, 2000.**



A small but a visible number of Dutch farmers settled in Poland. Interviewed by press and shown on television, they represent higher level of agricultural skills than their Polish neighbours. It is assumed that they could give an impetus to the local agriculture and help to upgrade it. “In the Netherlands one has to pay even an equivalent of 200,000 PLN for a hectare of land, and still no one wants to sell even an inch. And in Poland land is very cheap”, that is how Jordi Neuwenhaus explains his interest in our country. Six years ago he came to a former state-owned farm in the village of Łupawa. At the age of just 26 he is a director of Agro East Europe, and supervises crops on 2,000 hectares. “Back in the Netherlands I could only dream about something like that, the largest farms there have 1,800 hectares at best”, says Neuwenhaus. Marinus Luteijn came from the Netherlands to Sadkowo to Kały Wrocławskie. He won the tender to lease a plant-growing station (1,200 hectares of arable land). He quickly made friends with the locals: he rented harvesting machines to them, helped financially to restore the parish church burnt by a fire, and during the recent flood he gave out all sacks that he had in stock (Szarlik 2000). It is important to point out that in the relatively backward Polish countryside (compared to Western centre) an activity of foreign specialists who demonstrate standard capabilities (rather than exceptionally high) could bring

important long-term results for local communities.

Similarly, Western managers are introducing new management techniques to business in Poland. Gradually, they are replaced with Polish specialists. Polish managers are increasingly offered the highest posts in international companies. Often foreign companies have a policy to train their own employees and to create growth and advancement opportunities for them. If the management sees that Poles can do the same job equally well or even better than foreigners, they do not hesitate to replace foreign specialists with Polish ones. In some companies most managers are foreigners but they are managed by a Pole (Lesniewska, 2000).

In many cases, companies employ foreign specialists because Poland's middle and higher education system does not provide the desired skills. For instance, the Szczecin shipyard has serious problems with building ships to transport chemicals under an order placed by a Greek-Norwegian ship owner because Polish welders are not able to weld elements made of the so-called duplex (a special kind of steel). Therefore, the company had to 'import' several dozens of welders from Denmark. Also Mostostal, Gdańsk, has problems with finding skilled welders and mechanics in Poland, so it considers importing specialists from Korea. Most construction companies employ foreign experts in fire-control systems, power systems, ventilation, telecommunication and IT, or even on water & sewage installations in skyscrapers, because graduates of Polish technical universities do not have the required competencies (Olejnik 2001).

## 5. 2. Foreign Researchers in Poland

According to a survey conducted by the European Institute for Regional and Local Development, there were 264 foreigner researchers employed in Polish research institutions in 1996 (Table 1).

<b>Country</b>	<b>Number</b>	<b>% share</b>
<b>Total</b>	264	100.0
Ukraine	53	20.0
Germany	31	11.8
Russia	26	9.8
US and Canada	21	8.0
UK	15	5.7
Belarus	15	5.7
Czech Republic	14	5.3
Other post-communist	34	12.9
Other	55	20.8
Number of entities employing foreigners	131	12.6 units
Source: (Hryniewicz 1997)		

International Institute of Molecular and Cell Biology has been operating in Poland since 1998. In 1998 the first courses were organised and ran within the 'Cell and Molecular Biology School' programme.

Foreign companies have approximately 12 R&D units in Poland. Most of them work on software development. The share of foreign researchers employed on a contractual basis in ABB's R&D department in Poland is small (2 out of 97 employees since 1997). However, many researchers from foreign ABB branches come to Poland for short stays, from one week to three months.

### 5. 3. Foreign Students in Poland

The share of foreign students (for 1,000 students enrolled) in Poland is still very low (4.6 as compared to 18.9 in Czech Republic, 26.1 in Hungary, and 16.1 in Spain, the latter having a comparable population size – 1998 data), even if one takes into consideration size of Polish education system. However, one should keep in mind that Polish language is not used internationally. The relatively low level of internationalisation of Polish higher education system might be compared to also still relatively low level of e.g. internationalisation of Polish research (as measured by e.g. share of researchers publishing in international journals). Compared to other OECD countries, the share of OECD countries students is relatively low (17.7% as compared to 65.7% for Spain, 27.6% or Czech Rep. and 35.8% for Hungary) and share of Non-OECD European countries is relatively high. As the OECD report states, CEE countries that have recently joined the OECD show a rather low intake of students from OECD countries. “This may be due to a lesser institutional proximity and a level of economic development that is still lower than the average for OECD Member countries. On the other hand, there is a strong institutional proximity to the other countries of Central and Eastern Europe and the former USSR” (OECD 2001 b). A higher percentage of foreign students versus other OECD countries study “engineering, manufacturing and construction” (OECD 2001 b). It seems that Poland’s strong position in global physics and mathematics is not associated with a higher share of foreign students studying physics and mathematics in Poland. Most foreign students study at universities (2,400), in medical academies (approx. 1,000), at technical universities (600) and in arts schools. Approx. 54% of foreign students is of Polish descent. 2/3 of all students came from Europe (of which 46% from Ukraine, Belarus, Lithuania, Russia and Czech Republic), ca. 25% from Asia and Africa (GUS 1999b) (Table 2).

	<b>Student</b>	<b>%</b>	<b>Graduates</b>	<b>%</b>
<b>Total</b>	7,608	100	1002	100
<b>Europe</b>	5,650	74	719	72
<b>Asia</b>	1,128	15	145	14
<b>Africa</b>	265	3	48	5
<b>North America</b>	497	7	83	8
<b>South America</b>	60	1	7	1
<b>Australia/Oceania</b>	8	0	0	0

## 6. Policy Measures

Up to now, there has been no clear policy encouraging research emigrants to return to their fatherland, like e.g. “startup grants”. However, some measures have been undertaken, like the “The Polish Scientist Abroad” database which facilitates the use of research emigrants and their knowledge, and the EU “Maria Curie” program that facilitates work in EU institutes. Fundacja Nauki Polskiej (Foundation for Polish Science), non-governmental grant agency have special schemes for promoting young highly talented researchers preventing them from emigration.

There is no policy specific towards immigration and emigration of highly skilled workers in Poland.

## 7. Future Migration Forecasts

Even today, with the EU job market closed to Poles, highly qualified Poles have little difficulty taking up jobs in EU. The number of people leaving Poland, especially for permanent stay abroad, is not high. Moreover, Poland's economy needs more and more highly skilled people. Employment terms are comparable to those offered abroad, and even if they are slightly worse, the trouble of relocating often makes specialists decide to stay in Poland. Thus, opened borders are unlikely to lead to a rapid increase in numbers of highly skilled emigrants. Nor should this cause a high influx of foreign specialists. This is not just because of the lower living standards in Poland. A Polish employer would prefer to employ a Pole with the same qualifications, who would be able to communicate easily with co-workers, would not experience adaptation problems or have to bring family members to Poland (Maciejewska 2000).

Poland has just entered a period of 'two demographic explosions trap'. According to demographic forecasts, until 2010 the number of Poles at the age of economic activity will rise to 2.4 million. This will represent approx. a third of total population growth in Central and Western Europe. Employment opportunities in other countries could mitigate the effects of unemployment, especially given the relatively strong inclination to emigrate among the younger generation. It is assumed that in future Poles will seek jobs abroad within the historically established channels and traditional geographical directions. Also the relations and co-operation between foreign employers and Polish migrants will consolidate (e.g. seasonal farming/harvesting work in Germany or grape picking in France) (Marek 1998).

Germany and Austria are the two countries most concerned about the size of potential job-seeking migration from Poland. Deutsche Institut für Wirtschaftsforschung and Institut für Stadt und Regionalforschung from Vienna have published alarming forecasts warning that their labour markets could be flooded by immigrants from Poland after the borders are open. Many Polish reports have disproved those fears. They stated that the arguments saying that the discrepancies in wages and salaries between Poland and the EU and high unemployment rate in Poland would cause a high wave of migration are only partially justified. Migration involves high costs: parting with family and social network, "falling out" of the local job market. The unemployed do not speak foreign languages and have no qualifications. Also the argument about many Poles declaring their will to emigrate to EU for permanent stay neglects the discrepancy between declared and actual behaviour. Until now emigrants from Poland have usually occupied small, shallow and not very stable niches in the West, which is an important factor discouraging mass migration in the forthcoming years, assuming that no dramatic crisis will happen in Poland in the coming years. Also, the shrinking differences in living standards should weaken Poles' willingness to leave their country. 1990s emigration studies reveal that most Poles working in the Western European countries are employed as underskilled, seasonal and illegal workers. Presumably, demand for such labour force will continue also during the 10-15-year transition period (PAN 1998b).

The press is advocating that at present Poland does not have even one fifth of specialists needed to "run EU matters", and such specialists are not very likely to emerge in the coming years. Anna Diamantopoulou from EU Employment and Social Affairs Commission estimates that Poland should lease over ten thousand specialists. If it fails to do so, it will not be able to make use of billions of EU funds, and Polish businesses and organisations will not be able to withstand EU competitors. Today in Poland there are, at best, about 1,000 people who are qualified to become EU officers. When Poland joins EU, it will immediately need

2,000 qualified specialists to represent Brussels in Poland. Another 2,000 will have to be sent to the Belgian capital. 'It is almost certain that we will either leave some posts unmanned or we will have to be ashamed of our undereducated specialists' says Tadeusz Chabiera, training director at National School of Public Administration. 'Poland will need economists, social insurance experts, translators and interpreters and lobbyists,' enumerates Maciej Duszczyk from Poland's European Integration Committee Office. Moreover, Poland lack bankers skilled in management of retail branches and investment funds, as well as underwriting experts, telecommunication, IT and data transmission experts. Also, Poland does not have enough people skilled in quality assurance, HR management, mergers and acquisitions. Only the situation with lawyers looks a little more optimistic (Olejnik, 2001). According to a survey conducted by the Inter ministerial Labour Demand Forecasting Team, the demand for specialists in the so-called modern jobs in Poland will increase by at least 57%, and if the economic growth proves faster than expected – even by 70%. Moreover, thanks to technological advancement by 2010 at least 150,000-200,000 of jobs which no one can name or describe at present will have been created. Analysts do not say where these several thousands of skilled workers and qualified professionals are to be found (Olejnik, 2001).

It is hard to forecast whether increasing education enrolment in Poland will be fast enough to satisfy demand for highly qualified specialists for e.g. work in EU institutions, business management, banking etc.

Inflow of highly skilled foreigners could be facilitated by gradual changes in attitudes towards foreigners in the Polish society. Studies have shown a strong and positive correlation between education level in society and welfare level, measured by GDP per capita, and a correlation between those ratios and attitudes towards immigrants. Accordingly, Poland's society is more distrustful towards immigrants than Western European societies but the distrust level is about the same as in other CEE countries. Additional studies have proven that the distrust is also correlated with differences in education structure between the destination country and immigrants' countries. In countries with a higher education and welfare ratios, immigrants usually represent a lower education and, as such, do not represent a threat to the labour market (Mayda, 2003). Polish studies (Demoskop) have demonstrated that very few Poles would not permit any group of immigrants to settle in Poland but the group at the opposite end (all immigrations groups are allowed) is also very narrow. The largest proportion of Poles is willing to accept some categories of immigrants. The highest openness is observed among Poles who have recently travelled abroad and/or who have some migrations in their biographies. Nations which are believed to like Poles are more popular than others. The studies repeated on an annual basis show an increasingly positive attitude towards immigrants (ISS 1997b). The survey conducted by Joan Barbosa, a sociologist from the University of Porto, proved that countries which tried to join EU as soon as possible were also quick to learn tolerance and less prone to display intolerance towards strangers. This was the case in Portugal, Greece, Ireland and Spain. Recent surveys conducted in major Polish cities confirmed these findings. Almost 60% of the respondents think that presence of foreigners settling down in Poland is beneficial (Szarlik 2000).

Recent developments of ICT allow increase of mobility of highly skilled persons without physical movement (e.g. software engineers, telecommuting EU experts etc.). It is hard to assess to what degree these new possibilities will be utilised by highly skilled Polish workers but at least in some areas they could limit migration to other countries.

It is hard to predict how slowdown of economic growth and subsequent worsening of the

labor market will affect mobility of highly skilled workers (and esp. graduates) and decrease of the return of skilled Poles to homeland.

## 8. Conclusions

Growth of transborder mobility of people and esp. of students, researchers and all highly skilled professionals is considered as one of the symptoms of globalisation. Growth of mobility of researchers is also treated as a result of growing size and complexity of science. A higher level of education, an increasing need for skilled labour, specific skill shortages indicates that outflow and inflow of skilled workers will increase.

Short or longer-time migration of Poles since 1970s and especially in the 1980s is considered as one of the main factors behind the revival of private SMEs in Poland in 1990s and the overall economic acceleration in the first half of 1990s. Studies on new entrepreneurs in Poland show that a majority of new owners and managers (ca. 2 million) had acquired their previous experiences in the West.

The size of inflow and outflow is connected to the GDP per capita across the regions. In the 1990s, both general and highly skilled migration from Poland fell. Inflow to Poland is characterised by higher education indicators than outflow. Immigration structure is partly typical for developed countries and partly for developing ones. Inflow of foreign highly skilled workers (new phenomenon in modern history of Poland) is typical for a modernising economy.

Brain drain of researchers from Poland might be partly explained by both by petrified and oligarchic character of Polish research system and by its overpopulation relative to available financial resources.

The Polish higher education system is still poorly internationalised. The National profile of foreign students remains roughly the same as in previous decades and is characterised by inflow of students from less developed countries, mainly students of Polish origin. So far, Poland has been viewed as an accessible centre (or substitute of centre) for youth from ex-USSR countries and Asia. Outflow of Polish students to other countries is smaller than that of Hungarians and Czechs, but it might be partly explained by the size of Poland and lower GDP per capita.

Overall, it might be assumed than in the long run Poland's mobility structure will become closer to that of more economically advanced economies.

## 9. Sources of Data and Information

In Poland, like in most OECD countries, the principal sources of migration statistics are national administrative systems for regulating and monitoring immigration, administrative systems relating to temporary residence or work permits for non-nationals, population registers, and censuses and labour force surveys. Sometimes also other data sources are used (OECD, 2001). Importance of population register seems to be higher than in other OECD countries.

Data about migration of highly qualified professionals have to be fished out of various sources concerning migration. Up to now HRST in Poland is not measured. There are many sources dealing with migration, but accessibility is varied, and they differ with regard to

degree of completeness, presence of up-to-date information, reliability and presence in public statistics.

Sources of data used by GUS (Poland's Central Statistical Office). The electronic register of all permanent inhabitants of Poland, PESEL. Since 1990 the data on migration for a permanent stay have been collected on the basis of national register PESEL controlled by the Ministry of Interior and Administration. PESEL contains information about Polish residents, including address registration and deregistration, also related to relocation to and returns from other countries. Since 1997 GUS has used PESEL data also for statistics of short stays abroad. It is believed that PESEL data are much more informative with permanent relocation and returns than for short stays abroad. Since 1997 GUS has been using PESEL to estimate the number of foreigners living in Poland. Permanent stay data are collected from forms filled out by residents who cancel their permanent registration at an address. The document includes information about the target country, cancellation date, sex, age, marital status and education as well as citizenship. Nevertheless, the provided information is not always true. The declared target country is not always the country the person is really going to. Moreover, there are delays in entering data into the system. In 1990s as many as approx. 50% of people cancelling their permanent address registration left the 'education' slot blank. Used by CSO on annual basis.

Data about Poles employment abroad collected by the Ministry of Labour and Social Policy. The only data available from the Ministry is on Poles who work abroad within export contracts, bilateral or multilateral agreements, usually on a quota basis (the vast majority perform seasonal work abroad lasting no more than 90 days). This source does not include information about Poles who take up jobs abroad – even legally – outside the above-mentioned agreements. Another category covers Polish citizens who working abroad but for Polish employers. All in all, information collected by the Ministry is one of the sources of data on migration of highly qualified professionals.

Data available from Ministry of National Education on foreigners studying in Poland and Polish citizens studying abroad are verified in separate census GUS surveys. Those data often overlap with migration data from other sources.

Register of refugees/ asylum seekers kept by the Ministry of Interior and Administration contains information on people applying for refugee status or asylum.

Registers of the National Labour Office of the work permissions for foreigners. Not all permissions are really used and not all employers are employing foreigners who have got permissions. Newly issued permits are not distinguishing from renewals. Data, not published, concern profession as well as level of education (but without correlation). „Migrant workers are classified into two main categories according to the length of validity of their work permits. Short-term migrant workers are granted permits of up to 3 months whereas long-term migrant workers are granted permits with a validity of 3 to 12 months. Since permits can be renewed a number of times, Polish statisticians recognize that the current duration of a work permit does not reflect the actual length of stay of an international migrant worker in the country (R.E. Bilborrow, Graeme Hugo, A.S. Oberai, Hania Zlotnik, International Migration Statistics. Guidelines for Improving Data Collection System, International Labour Office, Geneva 1997, p. 23). Regional (Voievodship) Labor Offices are collecting data on season work migrations. Up to now data were published each year by the National Labour Office.

General Census is considered as the basic source of information on migration. The last one was held in 1988, the next one was executed in Autumn 2001. Methodology of last survey included UN and EU recommendations.

Microcensus— based on samples, the last one run in 1995, brought information on Polish citizens staying more than 2 months abroad and on foreigners staying in Poland longer than 2 months. Similarly as in General Census, data includes information on level of education.

Economic Activity Survey (Badanie Aktywności Ekonomicznej Ludności, BAEL), run quarterly by Central Statistical Office since 1992 on the sample of approx. 24 thousands of households. Since May 1993 questions concerning temporary migration. Data on the level of education of migrants.

Annual CSO survey based on questionnaire Z-01 „Report on the state of the employment” sent to law entities running economic activity and registered in CSO REGON register.

Sources collected and analysed by opinion pool and sociological research centres: work offers for work abroad for highly qualified personnel printed in daily newspapers; firms` surveys; surveys concerning migration plans or desire of working in EU countries; soundings of trans-boundary movement; survey on the emigration of Polish researchers based on sample (run 3 times in two years interval by the European Institute for Regional and Local Development, Warsaw University, Janusz Hryniewicz, Bohdan Jaśowiecki, Agnieszka Mync: The Brain Drain in Poland, Warsaw 1992; The Brain Drain from Science and Universities in Poland, 1992-1993, Warsaw 1994; The Brain Drain from Science and Universities in Poland, 1994-1996, Warsaw 1997, in Polish and English).

International organizations Survey of The Economic Commission for Europe, UN, carried out in Lithuania, Ukraine and Poland in 1997; EUROSTAT (e.g. Recent demographic developments in Europe, Council of Europe, 1995).

Potential sources include data of address and passport bureau as well as police stations.

Statisticians believe that the most useful data sources for skilled labour force migration studies are population censuses, Study on Economic Activity in Poland's Population (*Badanie Aktywności Ekonomicznej Ludności*, BAEL), PESEL database and the register of foreign students in Poland and Poles studying abroad maintained by Polish Ministry of National Education (MEN). Other sources usually provide incomplete data and overlaps. Since migration data are gathered by various organisations, it is impossible to aggregate them in a simple way.

If our information on Poles migrating to the West is based solely on Polish sources, especially official sources, serious mistakes and misunderstandings are inevitable. According to a definition of migration adopted in Poland, migration from Poland means leaving the country for at least 2 months, while systematic registration covers only cancellations of permanent residence in Poland due to planned relocation abroad (or *ex post* cancellations, after a period of living abroad). Evidently, actual registration is not in line with the definition. Data collected by some countries accepting Polish migrants suggest that the number of migrants is actually a few to a few dozen times higher than the numbers provided in Polish statistics. However, since the target countries use various definitions and registration methods and some country registers are not complete, foreign sources do not provide a reliable alternative to Polish statistics.

The relative shortage of relevant statistics on the mobility of researchers or highly skilled

workers seems to be connected with the lack of awareness of the importance of mobility policy and lack of priority of these issues in political circles.

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