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## **Bulgaria - Country Study on International Skilled Migration**

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December 2001

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MPRA Paper No. 47564, posted 24 Jun 2013 19:53 UTC

**BULGARIA - COUNTRY STUDY ON INTERNATIONAL SKILLED  
MIGRATION<sup>1</sup>**

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**December, 2001  
Sofia,**

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<sup>1</sup> This paper was written with special consultancy of Dr. Jordan Kalchev to whom the authors are obliged for numerous ideas, providing background information and valuable comments. Special thanks are going to Alexander Tzvetkov for carrying out the survey on the emigration intentions of Bulgarian students at the end of March, 2001.

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## Executive Summary

The paper adduces recent existing evidence on the scope and dimensions of “brain-drain “ from Bulgaria. The analysis started with the clarification of the concepts and definitions of brain drain. The authors based the analysis on the common accepted understanding of brain drain as tertiary educated highly skilled emigrants.

The data scarcity and the lack of rigorous evaluations of the impact of skilled emigration on the labour market and economic development of the country impeded the presentation of a deep and comprehensiveness analysis on the actual brain drain from Bulgaria. Meanwhile, it has to be pointed that the emigration and skilled emigration, in particular, is relatively new event for the country. Because of this most of the existing studies in this area are concentrated mainly on the intentions for emigration. Bearing in mind that the intentions for emigration are not the most reliable indicator because of their subjective character and the probability for change the authors presented their evolution as one of the available indicator for the expected dynamic of skilled emigration from the country. Based on the actual and potential skilled emigration the analysis of this study drawn several interesting conclusions.

1. Estimates of the “brain-drain” scale points out that within an increasing emigration outflows brain drain consists of about 10%. Over the period from 1989 to 2001 about 700 000 persons have left the country. In the first two-three years of transition the main part of the emigration flow included mainly ethnic minority, who were led by political motives. Among them the share of highly skilled emigrants was insignificant. Since 1993 the share of young and skilled professionals have been steadily increasing in the total labour outflow from the country. The most recent survey results indicated that 43% of young people aged 18-30 are willing to emigrate and 23% of respondents with a university degree are potential migrants.<sup>2</sup> The economic considerations and opportunities for carrier advancement started to play major role in the decision to emigrate. Although the scale of Bulgarian brain drain compared to that in other countries may be considered as “not exorbitant by any means” (August Gachter,

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<sup>2</sup> Profile and motives of potential migrants from Bulgaria, 2001, International Organization for Migration, Sofia mission, Sofia, p.3

Bulgarian Emigration and Immigration, June 2001), its increasing dynamic in the last years rises public debated and political concern.

2. The study analysis the emigration among Bulgarian scientists as one of the components of brain drain. It points out that over the period 1989-1996 more than the half employed in the research and academic institutions (6000 persons in number) separated from their jobs. About 10% of them emigrated, moving mainly to countries providing better conditions for research activities and employment promotion such as USA, Canada, Germany. The natural and technical sciences were most adversely affected by the “brain-drain”. The emigrants attained the most favourable professional and demographic characteristics, being in the productive age, well recognized in the world by their publications in international journals. An obvious link between education abroad and the subsequent work abroad was found.

3. The sizeable outflow of qualified professionals stems from dissatisfaction with current economical, living and working conditions and inadequate scientific support in Bulgaria. Opportunities for professional interaction and access to new ideas and achievements prove to be important for the decision to emigrate. Immigration policies of destination countries, the attitude of the society to immigrants also seem to be influential determinants of skilled emigration. Widespread unemployment appears as one of the main factors, pushing youths to search for a job outside the country. At the same time family relations and breakdown of social ties have been substantial impediments to the international mobility of skilled labour.

4. Despite of the lack of quantitative estimates of the loss of human capital, generated by the “brain drain” there have been clear indications that the process has had severe economic and social implications for Bulgaria. The negative impacts are expected in medium and long run, since together with demographic change the migration has been the most important contributor to the change in long-run supply curve. The lack of skilled professionals and well-educated people eventually limits the possibilities for economic development, economic growth and poverty reduction. The “brain-drain” has affected those fields where the training of skilled professionals is the most expensive (such as medicine, biology, IT technologies). Preparation of “scarce-skills“ specialists is bigger effort for the developing countries where the society has faced hardship of limited

financial resources and widespread poverty than for the developed ones. Scarce-skilled emigration generates not only the problem of “sunk costs” but also of depriving the country of the opportunity for further development of some strategic and prosperous scientific fields. A further cause of concern is the detrimental influence of “brain-drain” on the network of institutions and in particular on their capacity for further development. R&D institutions have been most adversely affected in Bulgaria in this respect.

5. Together with the negative impact the “brain-drain” has some positive consequences for the country related to potential return of emigrants and using their professional, organizational and managerial experience accumulated while staying abroad in the home country. The international skilled emigration contributed to the opening of Bulgarian science towards latest achievements and ideas and to its integration in the international market.

6. Although emigration is a relatively new phenomena for Bulgaria the discussion on the topic has expanded in recent years. Bulgarian government launched a number of measures aimed at developing a balanced migration policy concentrated in the field of improvement of migration legislature and promoting short-term employment of Bulgarian citizens abroad. Improvement of legal framework of immigration and strengthening the control on the illegal inflow into the labour market have been major policy targets.

Empirical findings and derived conclusions from the analysis clearly suggest that there is a need to assess more closely the costs and benefits of “brain-drain” with a view of finding solutions to mitigate the adverse impact. While no common perception of the set of measures that might be taken to prevent the “brain-drain” exist a number of general recommendations are outlined related to the legal basis of the free movement of people; the impact of economic development on brain drain emigration, including incentives for return, remittances and technology transfer; improving migration statistics, etc.

## I. Introduction

The so-called “brain drain” problem is a relatively new one for Bulgaria as for most of the transition countries. As it is known, the reproduction of labour resources in the centrally planned economy was done in relatively closed cycle, in which the education was closely linked to planned labour demand. The possibilities for education abroad and participation in labour activity outside the country were very strictly limited through a number of restrictions related to the free movement of the population outside the country.

Within the former COMECON, which included the ex-communist countries, labour mobility existed as labour exchange, including brain drain exchange and was caused by the needs of the developing industrial, scientific and technological specialisation. The so called “brain exchange “ within this Block included exchange of scientists and skilled professionals in the fields of power generation, chemical industry, machine building, electro-technical industry, etc. Highly qualified Bulgarian specialists had also worked for many years in Cuba and countries from Latin America and Africa under bilateral agreements for labour exchange. These were doctors, dentists, geologists, teachers, agricultural specialists, etc. In addition there were political refugees who left the country illegally and permanently and these people were considered as political emigrants.

Since the beginning of transition the described model has started to change. *On the one hand*, the undertaken structural reforms in the country caused a surplus of labour supply, incl. skilled labour. The personnel of over-manned state-owned enterprises have been substantially reduced. Under conditions of hard budget constraints and limited demand for research output many research institutions diminished their staff and some of them practically stopped to operate. The most adversely affected have been R&D institutions. *On the other hand*, the tremendous production fall, collapse of the CMEA market and unfavourable external conditions, related to Yugoslavian wars, resulted in a extremely low labour demand, including demand for skilled labour.

Under these conditions many Bulgarians have been forced to search for a job outside the country. The increasing emigration outflow has also been facilitated by the intensive globalization and integration processes in the world. Thus, ten years after the beginning of transition, the problem of emigration, in particular the “brain drain” is gaining importance. The increasing scale of external migration and its impact on the economic development of the country have generated considerable public debates, but the issue has not been closely studied yet. In this context the need for empirical assessment of the scale, determinants and consequences of emigration outflow in Bulgaria and development of strategy for preventing further depletion the country of human resources has become evident.

## 1.1 Definitions and Sources of information

The study of migration has always been a difficult task due mainly to the lack of information. There are two basic approaches in defining the concept of immigrant/emigrant:

- juridical approach related to the juridical status of the persons in the country (change in the citizenship);
- statistical approach related to the factual presence or absence of the person in the country. A crucial question therefore is the duration of the stay in the destination country.

*The definition applied here is the one used by UN according to which the emigrants are all persons that move permanently to another country or live (stay) in the non-residence country for the period longer than one year.* Existing surveys provide evidence that Bulgarian population has had unclear perception of distinctions between concepts of migrant, asylum seeker and refugee but here where it is possible the three statuses are considered separately.

In current study the focus is on the emigration of highly skilled persons with tertiary education. Unfortunately present **National Classification of Occupations in Bulgaria**, which was established in compliance with the national practice in the field of labour and the International Standard Classification of Occupations ISCO 88, does not provide working definition of skilled labour. Consequently a clear definition of “brain-drain” cannot be provided on the basis of that classification. (Table 1)

**Table 1:** Main Labour Characteristics defined by National Classification of Occupations in Bulgaria<sup>3</sup>

Occupation	Speciality	Professional qualification	Knowledge	Position
A combination of special knowledge, concrete skills and experience, acquired as a result of training and implemented in specific labour activity;	A combination of knowledge and training in certain works or activities, included in one profession;	A criterion for the level of knowledge, habits and professionally important qualities, acquired through training or accumulated experience. It is a prerequisite for performing a concrete labour activity;	Combination of knowledge and skills, acquired as a result of accumulated experience and corresponding to a certain level of labour qualification.	It makes more concrete the type and the contents of the labour activity of the person, described as a system of functions and tasks performed on the working place. Here are included managers, analysts, application specialists, assistants, service workers, qualified production workers, operators of machines, security staff, trade staff, producers in the agriculture, fishery and forestry, low-qualified workers, the army.

**Source:** National Classification of Occupations in Bulgaria

<sup>3</sup> National Classification of Occupations, Information Bulletin, MLSP, issue 6,1996, p.11



Main labour characteristics defined by the National Classification of Occupations in Bulgaria are summarized in Table 1. As a rule of thumb the skilled labour includes all university graduates and people with secondary special education. This working definition was applied in statistical publications and articles. The accepted definition of brain drain, pointed above, and the existing definition of skilled labour defined by the national statistics do not match, due to which people with special secondary education are excluded from brain drain analysis in this paper. According to 1992 census data (last census was in 2001 but figures are not available yet) the population of the country numbered 7 797 602 people of which 619 294 were with higher education. This means that brain drain should be studied within these 619 294 people.

One more question rises in case we combine educational and skill criteria as characteristics of brain drain. The question is whether all people with tertiary education should be treated equally related to their skills as brain drain or brain drain people are not only with tertiary education but also with high skilled professions. If we decided to include the skill criteria additionally to the educational level then the subject of the study will narrow to about 45 000 people in the case of Bulgaria in 1992. This number included people with tertiary education and high skills, employed in research and development. Without narrowing the analysis so much in the study special attention is paid on the emigration of Bulgarian scientists as a component of skilled emigration. Emigration intentions of current students are also analysed on the basis of information from our own small-scaled sample survey carried out at the end of March 2001.

In the study a special attention is paid also on *potential migration*. Very often potential migration appears to be the main feasible way to study emigration flows. *Potential migrants* are considered to be all the persons who declare their intentions and wishes (conditional or unconditional) to stay for a long-time in the destination country but has not realised them yet. So the crucial question in the empirical studies of potential migration is to reveal the intentions and the duration of future stay.

In order to get deeper insight to the intentions of emigration, different categories of potential migrants are considered.<sup>4</sup> The first group includes *persons planing permanent emigration* who declare their firm decision to go to live abroad. The second one covers persons who intent to work or live abroad for some period but longer than 1 year. In other words this is the group of *those intending temporarily emigration*. The third category consists of persons who have an intention to emigrate at some point, but have not a clear idea when and how it will be realised. So these are *people intending future emigration*. They differ from the persons in the previous group only in terms of the firmness of intention. The last group includes persons who state that it is unlikely to go to work or live abroad. They are treated as *people who have no intention to emigrate*.

### Sources of information

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<sup>4</sup> This classification used here was also implemented in the surveys conducted by NSI up to 1995.

The study draws on the results and main findings from a number of empirical surveys on migration carried out in the period 1989-2001 in Bulgaria. It also makes use of regular statistics of Bulgarian citizens travelling abroad, experts' estimates and case studies. In addition our own small-scaled sample survey was conducted at the end of March, 2001 aimed at revealing current intentions of Bulgarian students to emigrate.

Prior to 1989 the external migration has not been studied in Bulgaria. After 1989 a number of surveys were conducted. Table 2 summarises information about the timing, sample design, sample size and the institutions responsible for the surveys used in the current study. All these surveys concentrated on intentions for emigration. As for actual emigration the statistics is limited to the border information, gathered at the borders of the country, as well as the information coming from the Ministry of Interior related to visa permit. This information is permanent and quite limited related to gender, educational and ethnic identification.

## **1.2. Subject and Goals of the study**

As it was pointed above, in current study the focus is on the emigration of highly skilled persons including people with tertiary education and high skilled emigrants. On the basis of available statistical information and surveys results we are studying actual emigration, as well as potential emigration. The study of actual emigration is concentrated on several groups of skilled emigrants such as scientists and students. The emigration of skilled labour is relatively new event for the country and from this point of view it is expected that brain-drain should not be a significant problem for the country. What alarms the society and the researchers is the increasing tendencies of brain-drain. Due to this most of the recent studies in the country have been concentrated on the intentions for emigration. That is why in this study we are presenting more detailed picture on intentions for emigration among skilled and highly educated people. Depending on the intentions it might occurred, that "brain-drain" should not became a significant problem for the country or it might occurred in case of more intensive skilled emigration outflow in the future.

As already mentioned, the study faced significant problems, based on the limited available information. Due to this some of the analysis is based on expert opinions and indirect indicators.

The main goal of the study is to summarize the available information and knowledge on skilled emigration in Bulgaria; to provide update information on the continuing risk of a further "brain-drain"; to point out the impacts of skilled labour emigration on social and economic development of the country in medium and long-run; to derive a number of migration policy implications and suggestions for further study of the issue.

**Table 2: Methodological notes of the empirical surveys used in the current study**

Surveys	Population studied	Sample size	Sample design	Institution	Timing
Potential migration of Bulgarian citizens	Population of persons crossing the border	9619 persons	All persons crossing the border at the time of survey	National Statistical Institute	April, 1991
Internal and external migration of the population	Population of persons crossing the border	14311 persons	All persons crossing the border at the time of survey	National Statistical Institute	June, 1992
Profile and motives of potential migrants from Bulgaria	Population of age 18-60	10208 persons	Two-staged cluster approach	International Organisation of Migration	December, 1992
Profile and motives of potential migrants from Bulgaria,	Population of age 18-60	1917 persons 1972 persons	Two-staged cluster approach	International Organisation of Migration	December, 1996 March 2001
Potential emigration of Bulgarian scientists	Staff in BAS, Economics University, Technical university	10424 and 102 interviews with directors	Random sampling	Bulgarian Academy of Sciences	September, 1993
Migration-Europe's Integration and the Labour Brain Drain from Bulgaria	Staff of research and academic institutions	5456 persons and 107 directors	All the people	Center for Study of Democracy	December 1996

## 2.2. Scale and Patterns of Actual Emigration Flows

For better understanding the significance of the emigration flows, incl. skilled labour emigration in Table 3 below we present some figures on total population, economically active population and working age population as an indicators for the scale of “brain drain” in Bulgaria. Following the accepted understanding that skilled labour should be defined by educational level the table below points the number of economically active and working age population with higher education. The regular statistics does not monitor the annual population by educational level, due to which the table does not present such figures. The census data include population by education but this data are rather old - 1992 year. The last census data (2001) are not available yet.

**Table 3 - Total population, economically active and working age population**

Years	Population - thousands, end of the year	Economically active population - thousands*	Economically active population with higher education - thousands**	Working age population *- thousands**	Working age Population with higher education - thousands
1989	8992			4996	-
1990	8531			5010	-
1991	8518			5022	-
1992	8484			4732	-
1993	8459	6880.6	573.9	4738	475.1
1994	8427	6886.7	585.4	4741	474.9
1995	8384	6899.3	618.3	4745	495.5
1996	8339	6903.4	604.4	4749	488.0
1997	8283	6903.4	637.9	4749	518.2
1998	8230	6894.0	663.4	4750	537.0
1999	8190	6889.6	657.1	4752	527.9
2000	8149	6890.0	937.2	4748	-

\*Labour force survey

\*\*Labour force survey

\*\*\*male between 16-59 years old and female - between 16-54 years old.

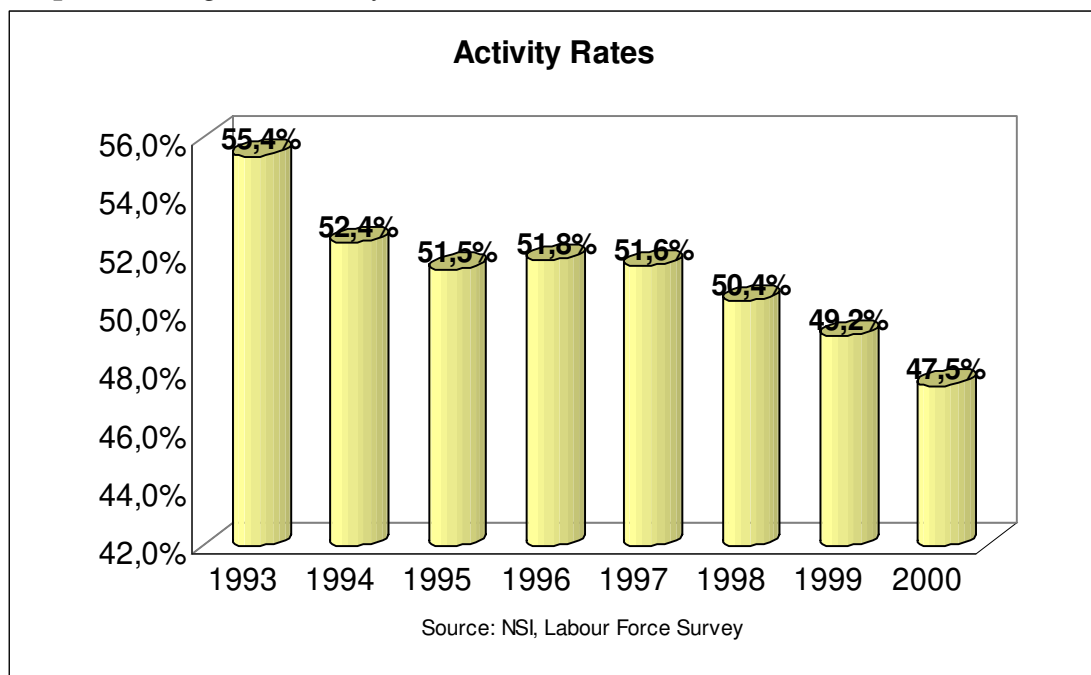
Source: Statisticheski spravochnik na Bulgaria for the respective years, LFS data for working age population by education, National Statistical Institute

According to above pointed figures the population decreased by 843 thousand people for the period 1989-2000. The economic active population (people over 15 years old) remains relatively stable during 1993-2000. The last fact may suggest, that the decreasing population was caused mainly on decreasing birth rates and less by emigration of the population. The highly educated people presented 8.3% of total economically active population in 1993 and 9.4% in 2000 year. The increasing share of highly educated people in total economically active population also suggested that there are not significant outflows of skilled labour during the studied period. Working age population

decreased by 248 thousand people from 1989 to 2000 year. The share of working age population with higher education increased from 10.0% in 1993 to 11.1% in 2000 year. The decreasing working age population indicated emigration outflows of less skilled labour, since both in absolute and relative terms the highly educated working age population has increased.

Meanwhile, activity rates, calculated as a ration between labour force and population over 15 years and more felt down significantly as pointed in Graph 1. The decreasing activity rates reflects the unfavorable demographic and labour market situation during the transitional period.

**Graph 1 - Changes in Activity Rates**



### 2.2.1 Emigration up to 1989

According to data of NSI over the period 1944-1989 total emigration from Bulgaria amounted to approximately 400 000 people. The main part of the emigration flow consisted of Turks legally moving to Turkey. This emigration took place in three waves on the basis of signed bilateral agreements between the governments of two countries. The first massive wave of emigrants was in 1947-1951 when 156 000 people left the country and second one within 1969-1978 when 114 000 left. The last wave of emigrants to Turkey was observed in the period 1984-1985. There was another legal emigration flow of 43 000 Jewish that moved to USA and Israel in 1948-1951. During the Communist regime migration was a choice underlined by political reasons. Very often emigration from Bulgaria resulted in harsh consequences for the emigrants' relatives.

Official statistics did not include data for these emigrants although their number was limited (Kalchev and Totev, 2000).

### 2.2.2. Emigration after 1989

Over the period 1989-1998 total emigration flow amounted to approximately 650 thousands people according to data reported by the National Statistical Institute and estimates of experts. The changing pattern of external migration is detailed in Table 4.

**Table 4: Annual Outflows of Migrants in Bulgaria: 1989-1998**

Years	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Emigrants (in thousands)	218	85	45	65	54	64	54	66	44	52

Source: NSI, based on so called “border statistics”; For 1997 and 1998 estimates are from V.Grigorowa, J.Kalchev, Application of expert method in assessing environmental impact statement, Journal of Balkan Ecology, S.,1999

As the data show migration outflow from the country reached its peak of 218 000 persons in 1989 immediately after the release of legal restrictions on the freedom to emigrate imposed during the Communist regime. After this massive wave the annual emigration decreased to 45 thousand people in 1991 and since then it has stabilised at a level in the range 50-60 thousands. Of course these figures understate the true scale of emigration because they do not include illegal one. Preliminary Census data provided by NSI in April 2001 show that since December, 1992 when the previous Census took place Bulgarian population have decreased by 514 000 people. The emigration has been one of the main contributors to this decline. For the period December 1992 - March 2001 196 000 persons left the country and 19 000 settled down in Bulgaria, so the migration balance amounted to 177 000 or about 22 000 people per year. Studing emigration outflows for a longer period of time - 1947-1999, some authors considered, that “an average net emigration of only about 7 000 people per year for a period of 52 years is not exorbitant by any points.” (August Gachter, Bulgarian Emigration and Immigration, June 2001). The fact, that in the last ten years the average net emigration has increased by three times alarms the public opinion and policy makers and concentrated research investigations on identification of intentions for emigration.

In the early 90s ethnic Turks constituted the main part of the emigration flows, moving to Turkey. The emigration was based evidently on strong ethnic affinities. In the years that followed their share in the emigration flows has been declining but still remains to be high. In the context of current study it is of particular interest to have detailed data on the composition of emigrants by educational level that will allow measurement the scale of “brain-drain”. Unfortunately such are not available from the official statistics.

### 2.2.3. Emigration of Bulgarian Scientists

In the short history of studying the issue of emigration during transition in Bulgaria several surveys on this topic were conducted, but only one focused on the emigration of

scientists – “Migration–Europe’s Integration and the Labour Brain Drain from Bulgaria”. It was carried out by Centre for Study of Democracy at the end of 1996 and was part of international study of “brain-drain” in 10 transition economies (see table 1 for details on survey methodology). Due to the lack of information about real emigration of scientists, the findings and conclusions presented in this section rest on 1996 survey.

According to the results obtained in 1996, over the period 1989-1996 6005 scientists separated from their jobs, of which 600 emigrated. In other words the external migration accounted for about 10% of the total migratory outflows from the research and academic institutions. This figure is comparable to that observed in other Central and Eastern European countries. For example over the same period the share of emigrants of total outflow from the research and academic institutions was 15% in Poland and 13,8% in Estonia. Bulgarian scientists flowed to two main destinations: North America (28% in USA and 9.9% in Canada) and Western Europe (16.2% in Germany, 5.7% in Great Britain, 2.4% in France and Austria). As regards to the dynamics, the data revealed that emigration of Bulgarian scientists had followed closely the patterns of total emigration from the country.

The pointed size of Bulgarian emigration among scientists leads some authors to conclusions, that Bulgaria does not experienced a serious brain drain and that the country could gain much from the return of the emigrants.<sup>5</sup> That conclusion is acceptable in case one is looking on the status as it at the period the survey is performed. But, if we would like to know what might happened in the future in case there is an increasing tendency for emigration then the conclusion should be supported at least with more deeper analysis on the dynamics of emigration.

One of the most important questions is whether the emigration among scientists can be treated as “brain-drain”. According to the survey results only 13% of those who left Bulgaria had not continued their research work abroad. In other words the prevailing part of the scientists who moved to another country can be treated as “brain-drain cases”. The socio-demographic decomposition of the emigrants showed that the scientists with the most favorable characteristics had leaven the country. In particular the survey has provided evidence that researchers in the most productive age with high degrees or occupying senior positions at the time of leaving, went abroad whereas the older ones and less skilled shifted to governmental administration.

The prevailing part of the emigrants had already been for some period abroad or graduated from western universities. For example 22.8% of those who had studied in the west emigrated against 13,3% of those who graduated from universities in Central and Eastern Europe and 11.3% of scientists with Bulgarian diplomas. As regards to the original place of emigration the employees of Bulgarian Academy of Sciences occupied the main part of the “brain-drain” flow.

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<sup>5</sup> August Cachter, Bulgarian Emigration and Immigration, June, 2001, paper presented at ILO conference in Sofia ‘The return of qualified emigrants to Bulgaria’.

The survey in 1996 indicated that the theoretical chemistry, biology, medicine and architecture have been affected most adversely by the “brain-drain”. The lowest “exit rate” was observed in the population of technical scientists. The composition of emigration outflow by major field of research is detailed in table 5.<sup>6</sup>

**Table 5:** Emigration rates by research subject: (1989 – 1996)

Research Subject	Emigration rate (in %)	Research Subject	Emigration rate (in %)
Medicine	67.3	Engineering	7.7
Chemistry	32.7	Construction	5.6
Architecture	31.0	History	5.6
Biology	30.0	Economics	4.9
Physics	23.1	Electronics	3.9
Geology	22.1	Automatization	3.3
Applied Chemistry	18.0	Energetic	2.1
Mathematics	9.7	Electrical engineers	1.1

Source: (CSD, 1996)

*Emigration rate presents a ratio between the number who emigrated out of the total number of those who qualified in the pointed research subject.*

## 2.3. Scale and Changes in Potential Emigration

### 2.3.1. Emigration Intentions of Bulgarian Population

It is very difficult if not impossible to collect data on the true scale of real migration. Therefore many empirical studies focus on potential migration as one of the few feasible ways to estimate the scale and dynamics of the problem. Despite the common definition of potential migration, presented in section 1.3, empirical studies usually use different sets of questions to measure intentions to emigrate. This makes difficulties in analyzing the dynamics in emigration intentions. Finally when the results from the surveys of potential migration are used one should not forget that they assess only attitudes subject to certain probability of occurrence.

The findings and conclusions on the potential migration of Bulgarian population as a whole and of persons with higher education in particular are based on the results from three surveys commissioned by the International Organisation of Migration (IOM), conducted in 1992 and 1996. These surveys used the same questionnaire thus making the comparison of the results possible. Where it is relevant the results from earlier surveys conducted by NSI in 1991 and 1993 are pointed out. The estimates of emigration intentions obtained from various empirical studies are summarized in Table 6.

**Table 6:** Changes in the intentions on emigration of Bulgarian population: 1991-1996

Surveys	Persons intending permanent emigration	Persons intending temporary emigration	Persons intending emigration in the future	Persons no intending emigration

<sup>6</sup> Table 4 does not present data on the small (not very populated) fields, but there have also been indications on emigration there. The latter means that in these fields the science was depleted from qualified labour force and in fact deprived of potential for further development.



Jan.1991	4,8%	N.a.	31.4%	68.6%
April, 1991	2,6%	N.a.	19.6%	80.4%
Jan.1993	3%	53%	30.%	70%
Dec.1996	3%	40%	24%	76%

**Source:** various surveys, described in table 2. For definitions of categories see &1.1 and 1.2.

As table 6 shows a relatively stable rate (3%) of people intending to emigrate permanently has been observed.<sup>7</sup> Conversely, the share of Bulgarians stating that it is very unlikely that they would work abroad for a few months or few years was much higher in 1996 than in 1992. For example in 1996, 60% of the persons surveyed reported that it had been very unlikely that they would live in another country for a few years to work compared to 47% in 1992. Over three-quarters (76%) of persons surveyed in 1996 stated that it had been very unlikely that they would move to another country for the rest of their life compared to 70% in 1992.

Apparently the overall proportion of Bulgarians who might be described as potential migrants declined between 1990 and 1996. The survey, however, indicated that the share of higher educated and young people in potential emigration had increased over the years. University graduates accounted for 25% of the potential emigrants in 1996 and to 20,1% in 1992. While the first wave of emigrants comprised the most qualified persons (research associates and university professors) recently young, less experienced people with university degree tend more frequently to leave the country. Consequently, in the broader sense of “brain-drain” the issue of depleting the country of qualified human resources became a serious policy concern. Some update results on the intentions for emigration among students, obtained from a small pilot survey among 450 young people studying at different universities at the end of March 2001, are presented in the next chapter.

Empirical surveys provided also data on the variation in the intentions to leave the country by educational groups for all categories of potential emigrants. Lower educated people have prevailed in the group of those intending to emigrate permanently while these with higher educational level have constituted the main part of persons intending future emigration. This fact suggests that a proper policy aimed at improving living and working conditions for young people in Bulgaria would prevent them from leaving the country temporarily or permanently.

The decline in the potential emigration over the years seems strange in comparison to the growing disappointment from the deteriorating economic situation in Bulgaria. Over 80% of interviewed in 1996 believed that *the things are going in wrong direction*, compared to just 40% in 1992. In 1996 over 90% of the respondents stated that *things are going worse*, compared to three years ago. Over 80% reported their own situation today is worse (related to their incomes, consumption, social security protection, access to health care, etc.) than it was three years ago. In this situation it is not a surprise that 74% of the

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<sup>7</sup> Different results obtained in the survey, carried out in April, 1991 can be attributed to the smaller sample and to the sample design rather than to the influence of any systematic factors.

interviewed said that they would encourage their children to emigrate while in 1992 this rate was as low as 41%.

Ethnic decomposition of potential migrants provides deeper insight to the nature of migration issue and helps in deriving policy implications. All the surveys evidence the highest migration potential of Ethnic Turks among ethnic groups. The variation in preferred duration of stay abroad by ethnic groups reveals different reasons for emigration. According to 1996 results Gypsies have intention to emigrate for shorter periods – to earn some money and go back to Bulgaria. Bulgarians plan to stay abroad for longer periods, but not to move permanently, for the rest of their life. For the ethnic Turks, Germany has been preferred destination country while for Gypsies the preferences have divided between Greece and Germany. The choice of Gypsies minority has been motivated by the geographic proximity and the shared opinion that the opportunities of finding a job are good in Greece, especially in agriculture. The picture changes significantly when the emigration is a definitive choice. In the total population of potential emigrants Turkey has occupied the first place as preferred destination country due to the highest emigration potential of Turkish minority. United States has come on the second place, followed by Germany and Canada. Greece has not been shown as a preferable choice for permanent move.

According to National Human Development Report (1999) the percentage of Bulgarians, who have considered and/or will considered emigrating is high, especially among business people, highly educated and the young. The share of those intending to move permanently comprises 7% of the total number of potential emigrants. 11% of people with business experience, 11% of those with thirtiary level of education and 13% of youth respondents expressed their intentions to leave the country in the future.

The most recent survey (IOM, 2001) indicated increasing intentions for emigration among all observed groups of potential emigrants compared to 1996 figures. According to this survey persons planing permanent emigration increases from 3 to 6.1%. That intending temporarily emigration increased from 6 to 17.1%. People intending future emigration in 2001 presented 25.3% of respondents. The average migration potential according to this study ranges between 20 and 25.3% of all citizens aged 18-60. The main characteristics reported by the study included “highly mobile, well-educated young people, more often male than female, rather single than married, inhabiting the capital or the other larger towns of Bulgaria”<sup>8</sup>.

*In sum, various survey results suggest that overall migration potential of Bulgarians has not risen between 1992 and 1996, and have increased by 2001. Migration potential remains high for some particular social groups – the youths, students, unemployed as well as ethnic minorities The latter indicates the desperate need to undertake measures for preventing the continuing risk of emigration among the above mentioned groups.*

### **2.3.2. Scale and Changes in the Emigration Intentions of Bulgarian Scientists**

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<sup>8</sup> Profile and motives of potential migrants from Bulgaria, IOM, 2001, p. 2

This section is based on the results from the two surveys on emigration intentions of Bulgarian scientists, conducted in 1993 and 1996<sup>9</sup>. The comparison of the results from the surveys is impeded by the different questionnaires used but still some findings and conclusions can be derived. According to 1993 survey, people intending to move permanently amounted to less than 6% of the respondents and this share had remained unchanged till 1996. Only 8% of the interviewed pointed out their preference to stay abroad for a period longer than 5 years. Majority of scientists (57%) expressed their willingness to go to work in foreign country for a period no longer than 2 years. Socio-demographic profile of was very closed to the one of real emigrants, described above. The most important characteristic was their high quality.

In 1996 66% of people intending to move permanently were with working experience longer than 15 years. All of them had published abroad and had number of publications in national journals considerably higher than the one of the other categories of potential emigrants. It is interesting that there was no person intending to go to live abroad forever that came from social sciences. 63.6% belonged to the technical and 36.4% to natural sciences. The main part of the potential emigrants came from research institutions. The proportion of university teachers of the total emigration population was very low. This maybe attributed to the reforms carried out in Bulgarian higher education that resulted in a better living and working conditions for the academic staff and more carrier opportunities.

The group of *potential emigrants intending to leave the country in the future* was considerably big in 1996, accounting for 67,4% of the interviewed. 26,8% of the scientists pointed out their unwillingness to go to work or live abroad. In sum, the 1996 survey did not provide evidence on the expected mass intention of Bulgarian scientists to emigrate. At the same time it supported the hypothesis about existence of a large group of potential emigrants who would leave the country in the future subject to the provision of some conditions. The latter suggests that the future emigration outflow maybe prevented trough implementation of a set of proper policy measures.

As regards to the planned duration of stay the majority of potential migrants in both categories – firm and hesitating emigrants were intended to stay less than 3 years in the host country. Only 11% of the potential settlers said that they would move permanently and 27% of the hesitating emigrants would stay longer than 3 years. This result indicates that the observed “brain-drain” appears to be response to the current deterioration of the economic situation in the country and has not been caused by firm intention to move permanently abroad.

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<sup>9</sup> see table 1 for details on the scope and sample design.

**Table 7:** Duration of stay in the destination country by types of potential migration (in %)

Categories	1-3 years	4-5 years	6-10 years	Longer than 10	Forever
People intending to move permanently	41.1	26.9	12.4	6.9	11.7
People intending to move in the future	72.4	16.8	3.3	2.3	5.1

**Source:** (CSD, 1996)

In all empirical studies the respondents showed USA and Germany as the most preferable destination countries. In 1996 24,5% of the persons intending to go abroad forever had chosen USA and 14,3% Germany as host country. In the group of hesitating potential emigrants these shares were 22,9 and 20% respectively. UK occupied the third place as a preferred destination country in the both categories of potential emigrants, followed by France and Canada. The destination preferences of the potential emigrants indicated that the attractiveness of the host country depended on the opportunities for carrier advancement and to a lower extent on the living standards. In other words the emigration of Bulgarian scientists can be really treated as “brain-drain”. Moreover, 49,3% of people planning to settle forever in the destination country would go to continue to work in research institution, 3,4% would study in post-graduate programs, 11% would participate in international projects and 28,1% had no guaranteed job but were intended to work their own profession. Only 2,1% of them were ready to accept any kind of job. As regards to hesitating emigrants, the proportion of those that would accept any kind of job was also very low – 4,7%. It can be summarized that the wish to emigrate was closely linked to the opportunities to continue research carrier offered by the host country.

### **2.3. Present Intentions on Emigration among Students**

In order to provide update information on the intentions to emigrate of students we carried out our own small-scaled survey at the end of March 2001. The sample included 450 students studying at universities, situated in Sofia. The respondents were randomly chosen. Quota sample was applied in order to reproduce the structure of total population according to the subjects of study. Students filled in short questionnaire that it is presented in the appendix to the paper. The sample was very small, but still it was possible to derive some interesting conclusions on the inclination of young people to emigrate.

Two questions related to the intention of students to leave the country were posed in the questionnaire. The first one asked about the intention to emigrate in a short-run – next two-three years. The second one covered a longer horizon and was aimed at revealing the intention of emigration after graduation from the university. 15% of the respondents pointed out that in the next 2-3 years it is very likely that they would start a job abroad and 30% said that there was a small probability of that. Approximately the same shares (for 14%- very likely and for 27% - likely) of students reported that they had intentions to go to study abroad. It has to be underlined that most of the students who said that they would go to search for a job abroad answered also positively to the question of possibility to study abroad. This means that the willingness of working abroad stemmed from the

decision to study abroad. Students considered the process of searching for a job in the destination country as a natural step, following the study there.

Significantly different are the intentions to emigration of the students after graduation from the university. More than one third of the young people said that they had planned to search for a job outside Bulgaria and that they would do their best to find a job. About half of them had not a clear idea what they would do after graduation. Only 15% expressed a firm intention not to leave the country. Obviously the deterioration of the living standards, the widespread and with increasing duration unemployment pushed the skilled youths to look for a job abroad.

As regards to the destination USA appeared to be the most preferable country for 22% of the students with propensity to emigrate, followed by Germany (11% of them). 8% said that they would go to study or search for a job in Great Britain and between 4 and 6% in France, Italy and Spain respectively. About 40% of the interviewed expressed their preferences to the countries in the European Union.

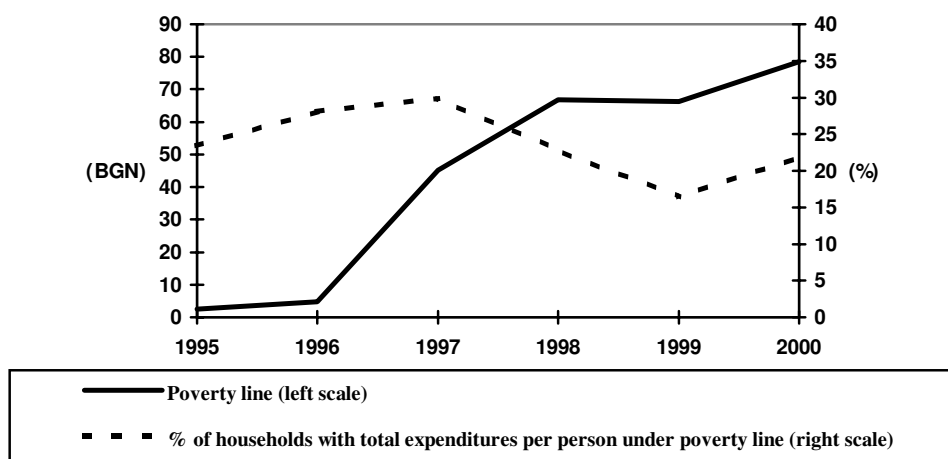
#### **2.4. Determinants of skilled emigration in Bulgaria**

Decision to emigrate is a complex process sensitive to the life cycle. Usually individuals have to weigh various relative benefits and costs associated with leaving home country, depending on their current circumstances and tastes. Despite that various economic models emphasize one or another reason for emigration the principal considerations that enter the individuals calculations fall into two main groups. The first one includes pecuniary considerations, related to the differences in the living standards between sending and host country; wage differentials, the probabilities for employment prospects and professional advancement in the host country and costs of moving. The second group comprises the social considerations associated with opportunity of taking family, costs of breaking valued social ties and of interrupting children's' education, political climate, social and cultural differences in the host country. In addition the decision to emigrate is dependent on substantial impediments related to legal restrictions on freedom to move or some personal reasons such as having dependents.

##### **2.4.1. Motives for emigration of skilled professionals and scientists**

In case of Bulgaria the so called "push" factors have prevailed the "pull" factors, determining emigration. All empirical studies carried out up to now have unambiguously shown that economic variables played a critical role in the migration decision. The vast majority of interviewed who revealed intentions to go abroad pointed out the adverse and continuously deteriorating living conditions, brought by economic transformation in Bulgaria, as the main reason pushing them to emigrate. Together with democracy and freedom to move, transition to a market economy has been associated with widespread unemployment, abolishment of fringe benefits, expanding poverty and tremendous decline in living standards (Graph 2).

**Graph 2. Dynamics of the poverty line and % of the poor (1995-2000)**



The present economic transformation in Bulgaria has been characterized by a significant decline in employment and high and persistent unemployment. Table 8 presents the tremendous decline in labour demand while labour supply remains relatively high.

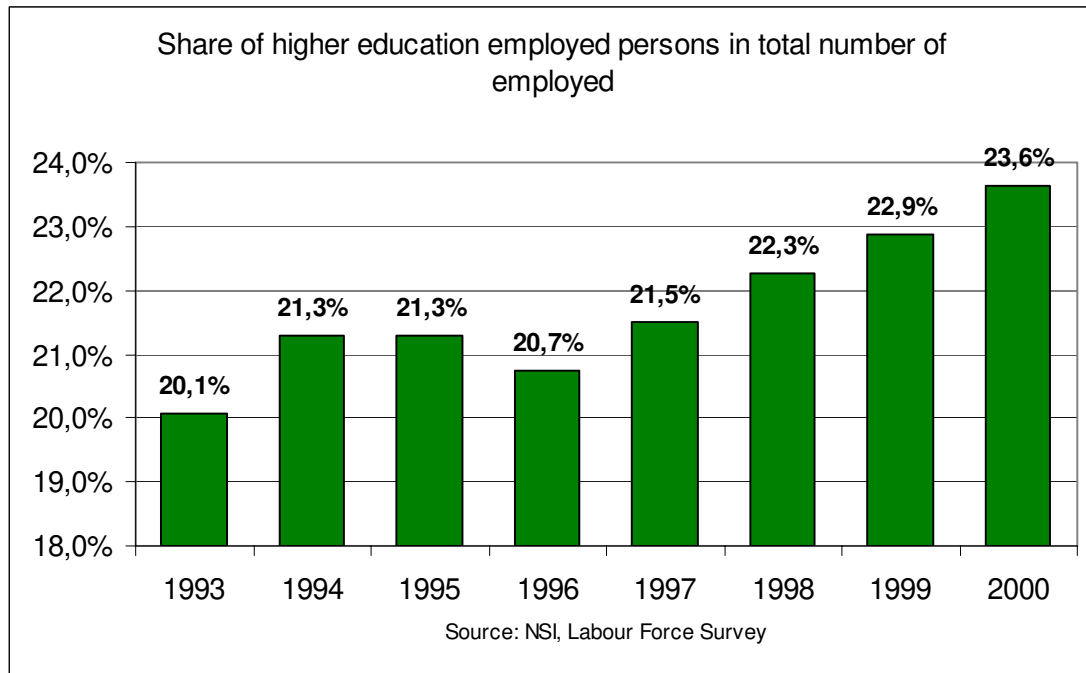
**Table 8. Dynamics of Employment and Unemployment in Bulgaria**

LFS Surveys	Employment – (in thousands)	Relative change (in %)	Unemployment (in thousands)	Unemployment rate (in %)
XII.1989	4366.0	-	-	-
IX.1993	2994.6	-31.5	814.7	21.4
IX.1994	2868.7	-4.3	740.2	20.5
XI.1995	3031.5	5.6	564.6	14.7
Xi.1996	3085.4	1.7	488.7	13.7
XI.1997	3030.1	-1.8	534.1	15.0
XI.1998	2920.7	-2.7	556.1	16.0
XI.1999	2811.0	-1.7	576.9	17.0
VI.2000	2872.4	2.1	559.0	16.3

Source: Labour Force Surveys conducted by National Statistical Institute; For 1989 the data are coming from regular statistics.

Although the tremendous decrease in employment the economic transformation influences positively the educational structure of employment, as illustrated in Graph 3. The low educated and less qualified employees were among the first who were dismissed by employers with the start of the reform. These people entered unemployment. They have had quite limited job opportunities within the country because of the extremely low labour demand. Due to this fact many of low educated and less skilled labour presented the first emigration flows.

**Graph 3**



Unemployment continued to be a major problem for the country. Still facing a number of obstacles to development private sector has not been able to accommodate a substantial part of the unemployed. Under severe conditions of widespread unemployment emigration has been a reasonable solution for many unemployed people.

The privatization process and economic restructuring have also contributed to the emigration. Economic restructuring and privatization have changed the professional\occupational composition of employment. Labour demand for certain professions\occupations has declined, that in turn has stimulated people to look for a job abroad. Privatization of the Bulgarian airlines “Balkan” is an illuminating Bulgarian example in this respect. Bulgarian pilots are well recognized as highly qualified all over the world. The privatization of the company resulted in a substantial staff reduction. Eventually after the company’s bankruptcy the whole pilot staff of the company maybe considered as potential emigrants in case they find a job abroad. This is an example of bad privatization deal leading to the push of potential emigration of Bulgarians.

**Table 9:** The Unemployment Rate, the Employment/Population Ratio and the Non-Employment rate by Age and Educational Level, December 2000

	Unemployment rate <sup>1</sup>		Employment-Population Ratio		Non-employment rate <sup>3</sup>	
	Youth (15-24)	Adult (25-64)	Youth (15-24)	Adult (25-64)	Youth (15-24)	Adult (25-64)
Primary or below	59.7	38.0	5.5	17.5	88.3	63.1
Lower secondary	47.0	24.8	6.9	36.7	69.3	40.0
Upper secondary or above	29.7	11.0	29.2	69.2	39.9	16.6
Average	34.2	14.4	18.3	57.7	51.9	23.4

Note: <sup>1</sup> The unemployment rate is defined as the unemployed divided by the labour force for each group; <sup>2</sup> The employment- population reports the employed divided by the total population for that age/education group; <sup>3</sup> The non-employment rate reports  $(u + d)/(u + d + e)$  for each group where  $u$  is unemployment,  $d$  is discouraged workers and  $e$  is employment.

Source: own calculations from LFS data (Dec. 2000).

Table 9 shows that as of December 2000 persons with higher education accounted for 13.6% of working age population; 21.2% of the labour force; 23.6% of the employed people and 8.8% of total unemployment in Bulgaria. In addition their activity rate amounted to 74.1% compared to 47.5% for the population of working age, 62.6% for those with secondary education and 27.5% for those with lower than secondary education.

According to these data higher educated have been better positioned on the labour market, however their share in the total emigration flow has been increasing. In particular a growing intention for leaving the country has been observed among youths.

Apparently the living and working conditions in Bulgaria appeared as leading factor that pushes emigration. At the same time to attribute emigration only to the dichotomy between adverse conditions at home and favourable conditions in the potential host country simplifies the choice. All empirical surveys show that social factors have played an important role in the decision-making about emigration. In particular for highly educated among others the emigration has been a way to find better employment prospects and opportunities for professional promotion in the potential host country than at home<sup>10</sup>. As it was showed above, the intention for emigration of skilled professionals had been closely related to the availability in advance of ensured opportunity to work in the same field.

The empirical surveys prove the hypothesis that the widespread outflow of qualified individuals stems from dissatisfaction with local conditions and inadequate scientific support – and from greater intellectual and earning opportunities abroad (World Bank, 2000, p.73). Bulgarian scientists make their choice on the potential host country led by

<sup>10</sup> For the sake of comparison it is to be noted that according to the surveys the motivation for emigration is quite different among ethnic minorities. For example for the Gypsies that have been most adversely affected by long-term unemployment emigration (very often illegal) has appeared as survival strategy. They have ensured subsistence minimum for their family members through looking for job usually in the neighbouring countries and collecting remittances. For ethnic Turks the non-pecuniary benefits still figure more prominently.



the possibilities for further carrier rather by the generally higher living standards. This fact has two main implications. The first one is that emigration of Bulgarian scientists has been a temporary phenomenon, appearing as a response to the initial disruptions and difficulties caused by transition and restructuring processes, but not as a product of massive and firm intention to settle permanently in a foreign country. It can be expected that part of the skilled professionals will return with the recovery and growth of the home economy. The second conclusion is that skilled emigrants, who had been subject of considerable educational investment by Bulgarian society, have continued to do research activity in the host countries. In other words the emigration possess all the characteristics of a “brain drain” process.

Family relations have played crucial role among other social factors in the decision for emigration. 64,2% of all the interviewed scientists in 1996 pointed out the departure with family as the main impediment to the decision for leaving the country. Breaking-down of social ties with relatives and friends was very critical for 26,3% of the respondents. It is of particular interest that according to the empirical results Bulgarians seem to be sensitive to the social environment and the attitude to immigrants in the host country. For example 22% of the interviewed Bulgarian scientists in 1996 reported that the unfriendly host society would prevent them from emigration compared to 4.1% of the respondents in Hungary and 6.1% in Czech Republic. The latter maybe explained by national peculiarities but also by the adverse impact on the attitude to Bulgarian emigrants in the developed countries, generated by the Shengen restrictions on free mobility of Bulgarian citizens.

In the field of professional carrier the social climate and the relations with the employers have also been important determinants of decision to emigrate. Job satisfaction stemming from adequate professional support, opportunities for professional interaction and access to new ideas and experiences, and chances of career advancement are significant positive incentives to retain the skilled labour force. In the two surveys on potential emigration of Bulgarian scientists, conducted in 1993 and 1996, the respondents pointed out as main incentives for emigration the restricted freedom in choosing partners for the teamwork, the dependence of carrier advancement on political factors, the indifference of managerial teams to the future prosperity of the institutions. The lower demand for research output in the country on behalf of both the science and the private sector had also contributed to the decision for emigration. Moreover the results from 1996 survey showed that in most transition countries foreign institutions had been the biggest consumers of research output, followed by the national states. This conclusion was in place for Romania, Hungary, Slovak and Bulgaria (CSD, 1996). Various empirical studies show that the extent to which the research institution has managed to integrate into the word scientific exchange affects the emigration decision.

#### **2.4.2. Motives for emigration of youth**

The increasing share of youths (in particular university graduates and current students) in the total emigration flow has recently been one of the main challenges for Bulgarian government. To reveal the causes for the “widespread disease” to leave the country among the youths is of crucial importance for the design of a proper policy tools aimed at

preventing further depletion the country from qualified human resources.

Various empirical surveys provide clear evidence that unemployment has been a main factor pushing youths to emigrate<sup>11</sup>. Table 10 shows that unemployment rate of youths is twice higher than the one reported for the population as whole for all educational levels. According to LFS data as of the end of December 2000 29,7% of the young people having higher education were unemployed while the same share in the total population of university graduates amounted to 12,9%. In addition the share of long-term unemployed has been considerable amounting to 49.9% at the end of 2000. In such severe labour market situation the emigration has appeared as “surviving strategy” for many youths, including those with higher education.

**Table 10: Unemployment and non-participation by education**

Educational level	Unemployment rates		Non-participation rate –		Non-employment rate -	
	Youth	Total	Youth	Total	Youth	Total
Primary or below	59.7	41.3	86.3	87.4	41.8	16.1
Secondary	47.0	27.0	87.0	72.5	15.6	15.3
Higher	29.7	12.9	58.4	34.6	19.4	7.3
Average	34.2	16.4	72.1	52.5	19.7	14.6

**Source:** own calculations from LFS data (Dec.2000). Beleva I., Ivanov A., O’Higgins, N. Pastore, F. Youth Unemployment Policy, UNDP, ILO Project, March 2001

Additional light on the youth unemployment problem maybe provided trough looking at the trends in number of students of Bulgarian universities. At first glance advantages that the higher educated people have on the labour market may explain the rise in the enrollment rate and the total number of students in Bulgarian universities in recent years (see Table 11). According to the official statistics the total number of university graduates increased from 36189 people in 1996 to 44501 in 1999. In addition there are about 3000 Ph.D students, who are currently working on their thesis. On average 300 of them successfully finish their study every year. At the same time the growing number of students maybe treated as evidence on the hypothesis that continuation of the education is an alternative to the unemployment for young people. For a part of youths studying at the university simply postpones unemployment and the timing of decision to emigrate subsequently for some years.

**Table 11: Schools, staff and students in Bulgaria**

	1996\97	1997\98	1998\99	1999\2000
Number of institutions – total	4050	3889	3837	3790
Number of teachers - total	119251	110541	111729	113009
Number of scholars - total	1427908	1403892	1389513	1357068

<sup>11</sup> The two most recent sources are the surveys commissioned by UNDP and carried out in February and March, 2001. See table 1 for details on the sample size and methodology of the two surveys.

Number of institutions – universities	42	42	42	41
Number of teachers in university	23285	19416	22072	24368
Number of students and Ph.D	237776	236740	248012	242860

**Source:** Statisticheski spravochnik, 2000, National Statistical Institute, p.24-25

In sum in the context of the current discussion the increase in the number of students maybe considered as a factor with controversial influence on emigration. On the one hand, young people with high level of education have better positions on the internal labour market. Thus education plays a role of factor decreasing the emigration probability. On the other hand, the social and economic problems of the country have disappointed young people and thus, have encouraged their emigration intentions.

Together with the discouragement from widespread unemployment and severely low labour demand the better employment prospects in the potential destination countries have been the two main factors pushing youths to emigrate. 29% the potential emigrants among students, interviewed at the end of March 2001 pointed out higher living standard and 26% better opportunities for carrier advancement as motives for leaving the country. Many students would leave the country to continue their higher studies in the developed countries and substantial part of them most likely would decide to remain there. Only 3% of the respondents agreed to start any kind of job and 15% a job not related to their qualification but highly paid.

## **II. Impact of the brain drain**

### **2.1. Positive and negative aspects of the “brain-drain” impact**

Undoubtedly, international skilled migration has proved to have economic consequences for both the host and sending countries. Despite the existing in recent years consensus on the view that net effects have been more favourable for host countries it is still difficult to evaluate the overall effect of skilled migration on the sending countries – positive, negative or strongly negative. The peculiarities of the undertaken reforms in transition economies makes some of the effects more influential or less influential compared to the other developing countries. In general, the costs of acquiring a professional qualification are considerably high for the society due to the large element of state subsidy in Bulgarian educational system. By migrating the young university graduates or scientists remove the opportunity for the government to realize any return on investment it had made in their education and it is for this reason that the issue continues to attract public debate. Therefore one should consider the all spectrum of possible impacts of skilled migration on the country in short, medium and long term.

In Bulgaria the large volume of unemployed makes the labour emigration a possible instrument for relieving labour market tension as a whole and for some groups in particular. Thus the emigration is expected to have positive effect on the labour market but in short run. In medium and long run some negative impacts are expected and long because together with demographic change the migration has been the most important contributor to the change in long-run supply curve. The lack of skilled professionals and

highly educated people limits eventually the possibilities for economic development, economic growth and poverty reduction.

In particular **the positive impacts** of skilled emigration maybe attributed to:

- *the opening of Bulgarian science towards the latest scientific achievements and integrating Bulgarian scientists to the world scientific community.* The empirical studies show that a substantial part of academic staff considers the “brain-drain” as a fee that Bulgaria has to pay in the process of globalization and integration.
- *the possible return of part of skilled emigrants that will influence positively the future country development of the through the implementation of their professional, organisational and managerial experience accumulated while staying abroad.* Moreover, the survey in 1996 showed that 20% of those who left the country after 1989 came back. Most recent studies on emigration intentions of youths have shown that majority of those who have been planning to leave the country will stay abroad for some period. They do not reveal a firm intention to live in the potential host countries permanently. Emigration seems to be a temporary solution and appears as response to the adverse economic conditions in the transition period in Bulgaria.
- *Generating foreign exchange remittances, increasing the rate of savings and using them as an investment capital, although this effect can be found in medium term.* According to some recent evaluations (Vladimirov, 2000), 43% of the emigrants, who came back had invested their savings in own business and 31% of them in buying real estate.<sup>12</sup> The authors underlined that these estimates could be even too optimistic, thus supporting the view that remittances had been beneficial for emigrants’ families, but had no strategic significance for the home country. The individuals who return home do not become agents of modernisation; their goal is to guarantee themselves a relatively safe well being and material situation. They gradually lose their experience and qualifications gained abroad because of the lack of conditions for their implementation in the homeland. An example from our own live experience maybe provided in this context. A friend of mine (Iskra Beleva), PH.D in biology left the country and had worked for three years in Chicago. She did a lot of scientific work, earned money and came back. The remittances were spend on buying an flat, while the accumulated professional experience was completely lost, since the equipment in her home institute did not allow further research investigations in the same field.

According to some authors the main problem with the remittances in Bulgaria is that they avoid the banking system.<sup>13</sup> Sharing such opinion the authors have done some recommendations related to this fact. The current account of the balance of payment in Bulgaria for the last three years points out increasing tendencies of net current transfers from 230.1 million USD in 1998 to 299.7 million in 1999 and 289.7 million

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<sup>12</sup> Vladimirov, et.el Bulgaria after 1997: Current situation and developmental tendencies, Sofia 2000, p.98-9

1. <sup>13</sup> August Gachter, Bulgarian Emigration and Immigration, June 2001, paper presented at an international ILO conference “The return of qualified emigrants to Bulgaria”, held in Sofia, June 2001, p.26

in 2000.<sup>14</sup> The problem is that the net current transfers include not only remittances, but also other transfers and it is unclear how much are actually the remittances. Anyway, even if some of the remittances avoid the banking system it is quite subjective to calculate them to a sum over 120 million USD per year. In case there is an inflow of such an amount of money per year (this is one tenth of the foreign investment in the county in 2000) the question is whether such inflows supported economic development? Bulgaria suffers declining economic development and highest unemployment among the Central and Eastern European countries in transition. This fact should prove the above mentioned conclusion that “remittances had been beneficial for emigrants’ families, but had no strategic significance for the home country”.

- *the increasing share of students going to study abroad that has to be appreciated positively since it is expected to enhance the human capital of the labour force and in long-run to contribute to the economic prosperity of the country.* However, the increasing evidence exists that substantial part of Bulgarians studying abroad does not return home and find jobs in the destination country. Since most of the youths go to obtain their tertiary education or to get a PH.D degree this process resulted in depleting the nation’s productive capacity. The students going abroad very often have been pulled not only by the better living standards but also by the better communications, access to the new technologies and latest achievements in the fields of interest, new type of relations that seem to be of increasing importance for the young people.

**Negative impacts** of skilled emigration maybe associated with:

- *negative impact on the labour supply in long run;* Since the beginning of the transition together with demographic change skilled emigration have been the two main contributors to the changes in the size and composition of the population of working age. Bulgaria has recently experienced and is projected to continue to experience a reduction in the rate of increase in the population of working age. The main cause of this decline has been both reduction in birth rates during last 3 decades and increase, although modest, in the death rate. Quite unfavorable demographic trends combined with the net migration are expected to affect negatively labour supply in the long run. Kalchev and Totev (2000) pointed out that in 1997 Bulgaria reported the lowest natural increase (-7.0 per 1000 persons of the population); the lowest birth rate (7.7 per 1000 persons of population); the second highest death rate (14.7 per 1000 persons of population) and the lowest total fertility rate of 1.09 among the 20 main European countries.<sup>15</sup> While in mid 1960s the birth rate in Bulgaria was around 16.0 births per 1000 of the population, by mid 1990s it had fallen by almost 50% to less than 9 births per 1000 of the population. The death rate displayed modest decline compared to the birth rate and as a result the slow-down in the growth of the population of working age and the labour force have been observed. There was a

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<sup>14</sup> Statisticheski spravochnik, 2001, National Statistical Institute, Sofia, p.90

<sup>15</sup> Data used in the comparison were taken from the publication “Recent demographic Development in Europe”, issued by the Council of Europe, 1998

reduction in the inflow of young people in the working age population and a larger outflow of older people from the same population. These developments have been accompanied by substantial changes in the demographic composition of the Labour Force. The proportion of young people decreased from 29.2% in 1992 to 20.1% in 2000. Having in mind that in the recent years the share of young people in the total emigration flow has been steadily increasing a further deterioration in the age structure of the labour force maybe expected.

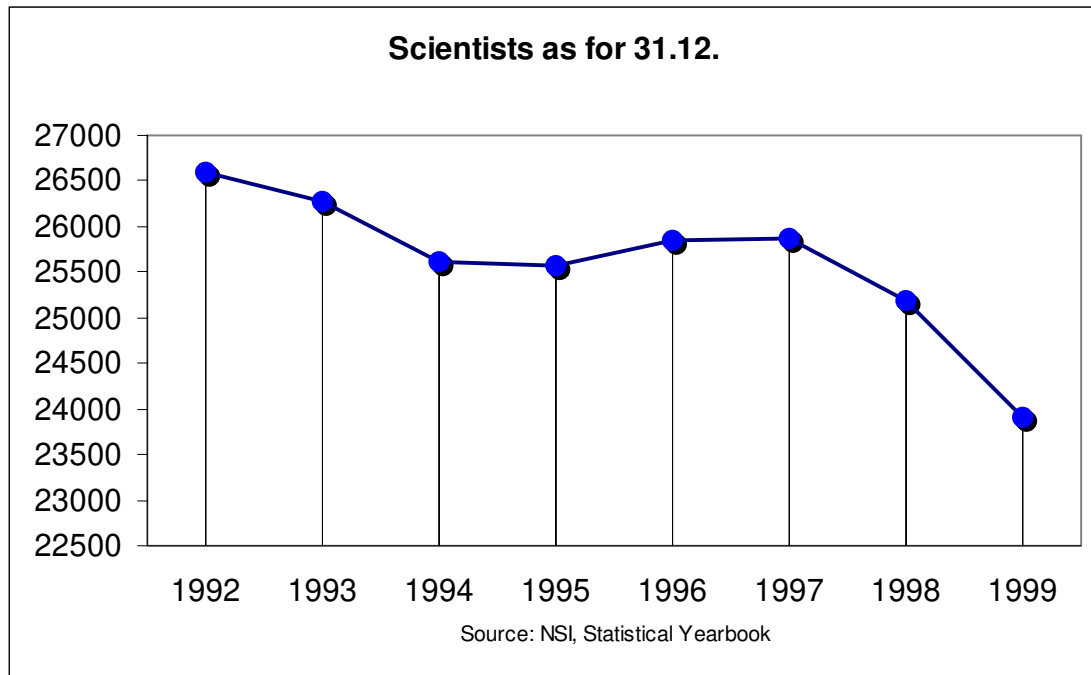
- *the problem of “sunk costs” and depriving the country of the opportunity for further development of some strategic and prosperous scientific fields.* It is of particular interest to obtain quantitative estimates of the investment costs spend on the people educated in the country. Unfortunately such estimates do not exist for Bulgaria. The total expenditure on the science and education, amounting to 0.4% and 4.3% of the total budget in 1999, were relatively low compared to the developed countries. At the same time the “brain-drain” affected those fields where the training of skilled professionals is the most expensive (such as medicine, biology, IT technologies). The implication is that the opportunity cost of preparing a student is higher in less developed than in the developed countries. Preparation of “scarce-skills“ specialists is bigger effort for the developing countries where the society has faced hardship of limited financial resources and widespread poverty than for the developed ones. Scarce-skilled emigration generates not only the problem of “sunk costs” but also of depriving the sending countries of the opportunity for further development of some strategic and prosperous scientific fields.
- *the detrimental influence of “brain-drain” on the network of institutions and in particular on their capacity for further development.* During the first years of transition the R&D institutions had virtually been depleted from their staff. About 60% of the total outflow in Bulgarian science consists of the employees of these institutions. R&D institutions were specialized in doing research in the most advanced areas of technological innovations. With their collapse Bulgaria has been deprived of the possibility to develop those strategic areas. The departure of the outstanding scientists has not been followed by sizable inflow of youths into research institutions. The low compensations, lack of interest in the research output, diminished prestige of the profession have been preventing young skilled specialists from joining the research and academic staff. As a result the aging of Bulgarian science has appeared to be a main a challenge for the government that need to be addressed. Tremendous decline in the total number of scientific and academic staff and changes in its composition are detailed in Table 12 and graph 4.

**Table 12 Composition of Bulgarian Scientists by Subject**

	1996	1997	1998	1999
<b>Total</b>	25853	25871	25192	23906
Natural science	5101	5054	5069	4868
Technical science	7421	7255	6813	6001
Medical science	4817	4760	4673	4417
Agricultural science	1653	1767	1576	1422
Human science	6861	7035	7061	7198

Source: Statisticheski spravochnik, 2000, National Statistical Institute, p.36

**Graph 4 - Dynamic of Bulgarian scientists**



During last decade Bulgaria had increasingly become an exporter of computer programmers and other types of IT specialists to the huge international market of Information and Communication Technologies (ICT skills). In long run this trend would eventually have a negative impact on the future economic development of strategic economic branches and implementation of new technologies in the industrial restructuring.

Finally when the impact of “brain-drain” on the home economy is considered it has to be taken into account that its adverse impact is additionally aggravated by existing “brain-waste” within the country. Under hard budget constraints the science and education have experienced a loss of human capital in the shape of skilled professionals who had been trained at considerable costs and later on switched to another field.

### **3.2. Public Opinion about the brain-drain impact**

The attitude of the directors of research institutions, interviewed in 1993 and 1996 was ambivalent and depended on the situation in their institution and the total number of the emigrants. The heads of the research institutions with relatively modest emigration outflow were neutral in their estimates while those heading institutions with considerably big number of emigrants expressed a definite opinion that the “brain-drain” had adversely affected research activities. Some of them said that they did not accept a number of international research projects due to the lack of enough human resource capacity.

The interviewed scientists agreed that the skilled migration brings a lot of benefits for the individuals but as a whole the process was considered to have a serious adverse

implications for future development of Bulgarian science and economic development. Only 3% of the students interviewed in March 2001 pointed out that emigration would have positive effect on the economic development of the country. The prevailing part of the students (67%) thought that emigration of skilled professionals would affect negatively the labour force in the country. The rest of the respondents (32%) shared an opinion that work abroad would improve professional qualification of the youths and that they could be useful for the home country after return back.

#### **IV. Debates on “brain-drain” in the country**

The skilled external migration has increasingly attracted public debates in recent years, although it is difficult to say, that it has been extensively discussed. Debates on migration are dominated by the discussions on implications of the limits on free movement in the EU countries for Bulgarians imposed by the Sanguine agreement and the ways of their soon abolishment. In this line the scale of illegal migration and the search for strategies for its limitation constituted the hearth of the public debates. Nevertheless there has been wide spread perception about the acuteness of the brain-drain issue that can be revealed trough looking at the empirical results from all surveys on migration.

The most recent public debates were caused by the cancellation of Schengen restrictions on traveling to EC countries for Bulgarians on 10th of April, 2001. It has been discussed whether the abolishment of restrictions will generate a new massive wave of emigrants to Western Europe; whether the total number of visits of Bulgarian citizens would increase and what will be the main reasons driving this process. The nationally representative survey dated 9<sup>th</sup> of April 2001 conducted by sociological agency “Alfa-Research” showed that only 15% of the interviewed people said they would travel more often than before the visa cancellation. 60% of the interviewed pointed out that there would be no changes in their intention to travel abroad. Majority of the respondents (74%) pointed out the lack of money as the main impediment to traveling abroad. What is more interesting from the point of view of this project is that 24% of the young people answered they would like to travel to study and to look for a job after graduation. 24% of the interviewed people considered the visa cancellation as a factor, increasing their chances of finding seasonal work abroad.

Still not being the hot topic of the day, skilled emigration has attracted increasing research interest. A number of comprehensive empirical surveys were carried out and several extensive articles appeared in the peer review journals, devoted to emigration outflow to Greece, issues of legal framework for emigrants and women emigration. The migration problems have been also discussed at different international conferences, organized under the auspices of the Ministry of Labour and Social policy. Two events maybe mentioned here: i) the international conference on international labour migration in South-eastern Europe, held in October 2000 in Sofia and ii) international conference “Programme for integration of refugees in Bulgaria” held with support of the United Nations High Commissioner for Refugees in Bulgaria in November, 2000.

Indicative for the perceptions of Bulgarian society about the scope of the brain drain and for its further development are results from the empirical surveys, revealing the people’s



attitudes to emigration. Probably the most striking finding is the extremely high share of Bulgarian population that will encourage their children to go to work and live abroad. 59% of the respondents in 1996 stated that they would like their children to go to work for several years abroad. One in four said that he/she would encourage his/her children to move forever from the country. Various surveys also show that Bulgarians are quite tolerable to the people leaving their homeland. Vast majority of the interviewed expressed their understanding of the motives for emigration. Quite different, however is the attitude to the illegal emigrants. About 70% of the respondents think that the illegal emigration have had negative impact on the image of Bulgarians abroad. Therefore they strongly support government in its efforts to restrict this form of emigration.

An interesting finding derived from the various empirical surveys is that Bulgarians have unclear perception of distinctions between concepts of migrant, asylum-seeker and refugee that in turn deserves to be covered by information campaigns. According to survey in 1996 commissioned by IOM, only a minority (33%) think that asylum seekers are persons who flee their homeland because of well-founded fears of persecution or to escape violent conflicts that are an immediate threat to their safety. Some 38% instead regard asylum-seekers as mainly economic migrants who are either forced to leave their homes for economic reasons or who seek a better life abroad in search of new economic opportunities. A special attention in the public debates is paid on the immigration in Bulgaria, which has increased in the recent years.

## **V. Policies to manage or reverse the brain drain**

### **5.1. Purposes, Scope and Content of Migration Policy**

International skilled migration is a relatively new phenomenon for Bulgaria that started to be seen after 1989. The increasing number of emigration flow and the increasing share of young and skilled professionals in it have attracted the attention of the government in recent years. Some measures and initiatives aimed at developing labour migration legislation and practice in compliance with the international and European standards and experience were launched. It would be premature, however, to say that a comprehensive system of policy tools targeted at finding the optimal migration balance has been created.

The new labour emigration policy has been determined by the situation on the national labour market, the real labour migration processes and the agreements of the country towards the European Union and other European and international organizations in the field of free movement of workers (Chulaska, 2000). The many of the activities undertaken in the last 10 years were <sup>16</sup> marked by the final aim - to join the “Schengen no visa regime area” and to assume regional responsibilities for protection of the external borders of the EU. Therefore in terms of migration policy the focus was on strengthening internal and border security; limiting both illegal emigration and illegal immigration and regulating the legal stay of foreign citizens in Bulgaria.

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<sup>16</sup> The overview of Bulgarian migration policy, presented here draws heavily on the report “Migration Policies of the Sending Countries: The Case of Bulgaria” prepared by Raimond Saparev, Head of European Integration Unit in the Ministry of Labour and Social Policy and presented at the International Conference “Labour Migration from South and Eastern Europe”, held in Sofia on October 28<sup>TH</sup> –29<sup>TH</sup>, 2000.

Bulgaria participates actively in the work of the European and international organizations in the sphere of migration - the Council of Europe, International Labour Organization, International Organization for Migration for the purposes of elaboration and implementation of an efficient migration management strategy. In this respect two events should be mentioned. In 1999 roundtable on the legal status of migrants for Central and Eastern European countries was held in Sofia under the auspices of the Council of Europe and hosted by the MLSP. In October 2000 it was follow-up by Round table on the legal status of persons admitted for family reunification.

## **5.2. Main policy directions**

The efforts of Bulgarian government have been concentrated in several main directions, namely:

- adoption and amendments of a number of legal acts, regulating both the emigrant and immigrant flows;
- promotion of short-term employment abroad of Bulgarian citizens through concluding bilateral intergovernmental agreements and licensing private intermediary agencies;
- more active involvement of Bulgarians who live abroad in the internal economic, political and social life;
- active participation in the initiatives undertaken by international organizations.
- creation of supportive working environment for youths and thus, remaining them, in particular the skilled young people, in the country ;

### **5.2.1. Development of Legislation**

Bulgarian government made considerable efforts in improving migration legislation. A number of new legal acts were adopted, including:

- Act on foreigners in the Republic of Bulgaria  
  Act on Bulgarian Citizenship
- Act on Bulgarian Identity Documents
- Act on Refugees
- Act on Bulgarian nationals living abroad.

In addition some amendments and supplements to the existing legal acts were adopted in order to harmonize Bulgarian legislation in the field of labour with the European standards and practice and to implement a balanced migration policy. In 1993 Bulgaria ratified the Geneva Convention on Refugees and the New York Protocol of 1967. In the same year National Territorial Asylum and Agency for the Refugees were established. Hard struggle was carried out against illegal migration. Geographic position of Bulgaria and the quite liberal access to the Bulgarian labour market made the country an attractive place as a temporary stopping point of immigrants from Asia and Africa on their way to Western Europe. In this respect the visa policy was strengthened. Agreements for no visa regime with countries in Asia and Africa that are potential source of illegal immigration were denounced. State border safety was improved and the control over border regime was reinforced. Agreements for readmission with 20 countries were signed.

As a result of all these measures the migration practice in the country improved

significantly. In September 1998 at the meeting of the Schengen States Bulgarian government reported the activities carried out and stated that the recommendations of “Budapest process” were followed and country is not anymore an emigration treat to Europe. The Government’ activities continued in this respect and as a result on the April, 10, 2001 the restrictions on free movement of Bulgarian citizens imposed by the Schengen agreement were abolished.

### **5.2.2. Regulation of Short-Term Employment**

The Ministry of Labour and Social Policy supports the position expressed by the Final Communiqué of the VI Conference of the European ministers for migration organized by the Council of Europe (Warsaw 1996) and Recommendation 1306 of the Parliamentary Assembly of the Council of Europe that short-term labour migration is to be discussed as a prevailing model in future and pursue policy targeted at promoting short-term foreign employment of Bulgarian citizens abroad through concluding bilateral intergovernmental agreements and licensing private intermediary agencies. This policy is fully in compliance with the provisions of the first paragraph of Article 42, Chapter ITV of the European Agreement for Association between the European Communities and their member states, on the one hand, and the Republic of Bulgaria, on the other hand. According to the agreement the alleviated access of Bulgarian workers to the labour market of EU member states in pursuance of bilateral intergovernmental agreements with Bulgaria shall be retained and if possible improved. The other member-states are recommended to consider favourably the concluding of similar agreements.

The new Law on Protection against Unemployment and Employment Promotion, adopted at the beginning of 1998 stipulates the right of Bulgarian citizens to work in another country. The employment can be done either under the contract with Bulgarian employer, who has the right to carry out activities with Bulgarian workers on the territory of another country, or under the contract with foreign employer through the mediation of the National Employment Service (NES) or another Bulgarian legal or natural person.

A number of bilateral employment agreements with countries-members of European Union were concluded. The most active labour exchange was realised with Germany on the basis of the three intergovernmental agreements, namely:

- Agreement on employment of workers from Bulgarian enterprises for execution of contracts for work in the Federal Republic of Germany, signed in 1991;
- Agreement on employment of workers and enhancement of their professional and language skills, signed in 1992
- Agreement on provision of mediation services to Bulgarian workers for fixed-term employment in the field of hotel and restaurant business, signed in 1999;

The first agreement concluded on 12.03.1991 was targeted mostly at construction firms – subcontractors of German investors. The agreement from 1992 concerns individual labour contracts between Bulgarian citizens and German employers and gives opportunity to persons with qualifications being at deficit on the German labour market to enhance their human capital and language qualification trough working in Germany for 12 months with possible extension of 6 months. The Agreement of Seasonal

Employment treats cases of experts and workers who had already worked in Germany and were personally requested by German employers. It concerns employment up to 3 months per calendar year. As it can be seen from the above description the employment provided by the bilateral agreements is related to the unskilled or semi-skilled jobs and thus, confirming the dual labour market theory that the demand for low-level workers in more developed countries is a critical factor shaping international migration. In quantitative terms in 2000 in Germany employment reached 19200 man-months per year provided by Agreement from 1991, 463 working places under the Agreement from 1992 and 695 jobs in hotel and restaurant business, ensured by the Agreement from 1999. Employment on the basis of bilateral agreements has positive impact on Bulgarian labour market through restricting the illegal migration and releasing the pressure of labour surplus of lower educated where the incidence of unemployment is the highest.

Except with Germany Bulgaria concluded bilateral agreement with Switzerland according to which Bulgarian citizens are provided with opportunity to improve their professional and language skills through working in Switzerland from 12 to 16 months. An Agreement between the Government of the R. Bulgaria and the Republic of Greece on seasonal employment of labour was signed in 1995 enforced in July 1997. However due to several factors it is not applied effectively by both parties. Bulgarian government has made a proposal to the Greek authorities for updating and signing a new Agreement (Saparev, 2000). An Agreement for mutual employment of citizens with the Czech Republic was signed in December 1999 (in force since 4 May 2000). Agreements with Greece, France, Lebanon, Kuwait, Qatar and South Africa are in preparation process. Bulgaria continues to seek ways for signing agreements for labour exchange under the European Agreement with other Member-States and applicant countries. However this process is a difficult and slow one since the Member-States in fact do not show particular interest in that respect.

Another opportunity for employment abroad is to use the services of licensed by NES firms. Over the period 1991-1995 the licensing procedures were regulated through the Decree 110 of the Council of Ministers. 360 licenses in total were issued for this time where each of them was valid for the period of one year. In 1995 the licensed procedures were made more restrictive in order to ensure citizens against abuses by the labour mediators. The last amendments in the procedures dated to 1998. Since then by the end of April 2000 the Ministry of Labour and Social Policy has issued permits for the provision of mediation information and labour placement services abroad to 21 private agencies. According to expert data annually over 3000 Bulgarians find employment (short-term and longer-term) through these agencies. Most of the intermediary firms work in Mediterranean countries – Israel, Greece, Cyprus, Libya, Turkey and Lebanon. The firms working with Greece and Cyprus offer seasonal work and those licensed for Libya hire medical and engineer-technical personnel. Opportunities for individual contracting of work abroad also exist. Ministry of Labour and Social Policy and NES legalize individual labour contracts.

In sum it can be said that the measures aimed at promoting short-term employment abroad are mainly targeted at unskilled and semi-skilled workers. By such activities the

government seeks to restrict illegal emigration. As it was shown in the previous chapters highly trained professionals usually leave the country with already ensured working contracts. In this respect their intention to emigrate depends on the policy of destination country rather than on the national labour market situation.

### **5.2.3. Intensifying contacts with Bulgarians leaving abroad**

In recent years Bulgarian government launched a number of initiatives aimed at more active involvement of Bulgarians leaving abroad in the economic, political and social life in the country. Due to historical and mainly political reasons Bulgarian Diasporas abroad lack the tradition of other countries as Poland, Greece. Their relations with the mother country are still very strong. In this respect it is quite possible for many of emigrants to return back and apply the know-how obtained abroad. An example of Government's effort to encourage Bulgarians living abroad to participate in the country's life is the annual meeting of such people held around Easter time under the auspices of the Prime Minister of the R. Bulgaria. The meeting includes a number of discussions on the future development of the country and opportunities for return and investments at home. The number of expatriates who made investments in the local communities or their native regions has been increasing in the recent years.

### **5.2.4. Immigration Policy**

The current labour migration policy of the Republic of Bulgaria is aimed at: i) protecting and developing the national labour market; ii) adopting of the *EU acquires communautaire* in the field of free movement of workers; iii) respecting the rights of the admitted foreign workers and iv) preventing illegal employment of foreigners on the territory of the country. Foreign citizens with permanent residence status may start work under an employment contract following the procedure established for the Bulgarian citizens, while those with temporary stay permits - after issuing a work permit by National Employment Service. The current national legislation regulates the following rights of the foreign workers:

- Non-admission of discrimination on the basis of race, nationality, ethnic belonging, political affiliation, membership in trade union organizations and movements, public status, property status and state of health;

- Equal treatment of the employed foreign workers in terms of working conditions, payment and dismissal;

- Settlement of employment and insurance relations of foreign workers employed by local employers under the terms of Bulgarian labour and insurance legislation;

Work permit shall not be issued when working conditions and payment are less favourable than those established for Bulgarian workers and employees and when labour remuneration does not provide for the means necessary for support of the person in the country. Currently there are no evaluations or statistical data revealing some shortages of particular skills and professions on Bulgarian labour market. Consequently there has been no need for finding ways to attract foreign workers. Contrary to that excess labour supply and widespread unemployment, concentrated in the groups of unskilled have forced the government to reinforce the control over illegal emigration of unskilled immigrants who would compete on the indigenous labour market on the basis of a large

volume of work at lower wages.

### **5.2.5. Countering brain-drain of skilled youths**

Facing the threat of increasing number of young and skilled people leaving the country, Bulgarian government started to implement a steady policy of reversing “brain-drain”. Lack of suitable jobs everywhere in the country, disappointment from the pace and speed of the reforms, from political instability and growing corruption made many young people to seek real democracy and economic opportunities abroad. Therefore promoting employment and devising schemes for career advancement of young people became a major target of policy in the country. A number of active labour market programmes and measures aimed at encouraging self-employment among youths, improving their qualification are currently in place. In addition numerous incentives in the form of tax relief or payment of wages of hired youths for some period for the employers to hire university graduates and school leavers have been provided. Recently the Prime Minister and the President intensify contacts with students through a regular meetings devoted to the problems of youths and strategies for remaining them in the country. In general, the stabilization of economic and political situation, leaving behind the price and demand shocks generated by the transition to a market economy and moving towards economic growth play a major role in balancing labour emigration. In this respect currently implemented governmental policy aimed at creating new jobs, promoting small and medium size business, decreasing tax burden, improving investment climate, outlining real opportunities to achieve high living standards and social security eventually will result in better economic and living conditions and hence will mitigate the negative effect of “brain-drain”.

Bearing in mind the ambitious intentions of the Government to assume the challenges and responsibilities in terms of the transposition and implementation of acquires communautaire in the sphere of migration till the date of accession to the EU, as well as to have an active contribution for the transformation of Europe into an area of long lasting peace, prosperity, social justice, safety and stability, the efforts will continuously be directed towards:

- Development and strengthening of the institutional and administrative structures for implementation and control of acquires communautaire;
- Establishment and implementation by stages of a mechanism and procedures for co-operation between the NES and the employment services of the member states and the European Commission in the field of employment (EURES);
- Enlargement of international co-operation, co-ordination and setting into line of migration policies and establishment of better conditions for mutual exchange of information between the states. In this respect the deepening of regional co-operation in the sphere of control over illegal migration as well as the development of possibilities for trans-border employment is of particular importance;

## **6. Recommendations**

Although emigration is a relatively new phenomena for Bulgaria the discussion on the topic has expanded in recent years. Bulgarian government launched a number of

measures aimed at developing a balanced migration policy concentrated in the field of improvement of migration legislature and promoting short-term employment of Bulgarian citizens abroad. Improvement of legal framework of immigration and strengthening the control on the illegal inflow into the labour market have been major policy targets.

Empirical findings and derived conclusions from the analysis clearly suggest that there is a need to assess more closely the costs and benefits of “brain-drain” with a view of finding solutions to mitigate the adverse impact. While no common perception of the set of measures that might be taken to prevent the “brain-drain” exist the following general recommendations can be outlined:

1. It is increasingly recognized that rigid controls on movement of persons would not be productive in the current context of dominance of market forces and democratic governance. An excellent example is the effect of restrictions on the mobility of Bulgarian citizens imposed by Shengen agreement. Restrictions on mobility have not reduced migration flows, but rather have increased the number of illegal migrants and the number of jobs classified as 3D (dirty, dangerous and demanding). As a result black labour market has expanded in the host countries.

2. Any incentive found appropriate in particular situation should reflect the understandings of the determinants of brain drain. Taking into account the role that the economic factors have played in the decision to emigrate in Bulgaria it seems that improvement of the situation in the country would be the best policy preventing the country from further loss of human capital. Economic recovery however is long lasting process, requiring *inter alia* political stability, appropriate policy measures on the part of government, favourable conditions in the international markets for country’s export of goods and services and a supportive stance by the international community (P. Williams, 2000). In this case measures that seem to be feasible and effective in short-run maybe implemented.

3. The call for development and implementation of the general strategy for further development of Bulgarian science is obvious, but this also belongs to the measures, countering brain drain in the long run. Skilled personnel management at the workplace could be influential in retaining skilled people in a shorter period. This includes the assignment of tasks to the scientists suitable to their qualifications as well as to offer the prospect of attractive career path. Creation of supportive working environment is an indispensable part of the set the measures that would discourage brain drain in the short-run. The latter includes ensuring that the skilled professionals and those returning home after education or specialization abroad would keep their access to the conferences, peer review journals and latest achievements in the field. The wide spread of information and telecommunication technologies would help enormously in this promoting such contact. The linkages and exchange of qualified labour between Bulgaria and developed countries through carrying out joint research projects maybe also positive incentive for the retention of the skilled labour in the country. The abolishment of restrictions on the free movement of Bulgarian citizens also plays important role in confining brain drain in reasonable limits.

4. Encouraging the return of skilled persons or at least creating incentives for them to transfer remittances back or to invest at home would have positive impact on the

country development. Moreover the empirical surveys show that decision to leave the country is a temporary solution for Bulgarians. It was a response to the adverse living and working conditions in the country and was not a result from a firm decision to leave the country forever. The Republic of Korea and the Taiwan Province of China witnessed the return of skilled professions when the home economies prospered. India is also an example where numerous incentives have been provided for the expatriate community labeled Non-resident Indians for return or invest at home.

5. Having in mind that in recent years Bulgaria became exporter of highly qualified IT professionals the opportunity to develop some business producing software in Bulgaria could be of mutual interest.

6. When the policy to reverse brain drain is designed it should be taken into account that migration is process very sensitive to the political and economic changes in the real environment. Therefore the effective decision-making should rests on update information on the motives of potential emigrants and its potential size. In this respect a number of avenues for further research and improvement of data gathering in the country maybe outlined:

- to carry out regular sample surveys of Bulgarian citizens, crossing the border or nationally representative surveys carried out trough interviews at home. The important point here is to apply the same methodology, in particular in the part related to potential migration in order to make possible analysis of changing patterns of the phenomena;

- to use actively opportunities for bilateral or multinational empirical surveys on brain-drain that will give the opportunity to combine the information from home and the host countries;

- to extend the set of currently used information sources and to search for new data from NGOS, from Bulgarian diasporas all over the world and international organization;

- to extent co-operation of National Statistical Institute with developed countries and Eurostat and to apply the methodology of mirror statistics in providing data on the scope and determinants of migration;

- to develop the integrated data base, containing data on immigrants, emigrants and Bulgarians working under short-term contracts under the rules of current legal framework in this respect.

Many of the recommendations for improvement of data gathering were implemented in the last Census of Bulgarian population conducted in March 2001. The data will provide rich information about the gender, age, place of residence, citizenship and education of the real emigrants and will reveal the current potential for leaving the country among different social and demographic groups. When this information will be analyzed further areas of research will defined and some new policy implications will be derived.

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