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***Is Brain Drain from Albania, Bulgaria and Greece
Large Enough
to Threaten their Development?***

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**Is Brain Drain from Albania, Bulgaria and Greece Large Enough
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1. Introduction

The objective of this paper is, first to briefly review the different aspects of the brain drain, its potential positive or negative, direct or indirect effects on the economy of the home country; second, to highlight the limited empirical research on some of these issues, and third, to discuss the empirical evidence on the nature and size of the brain drain, as well as its impact on the economy of Albania, Bulgaria and Greece, The ultimate aim is to try answering the question whether the actual brain drain experienced by these countries has been or can be a threat to their development.

2. Debate on Brain Drain, Brain gain and Brain Waste

The traditional view on brain drain stresses only the negative effects, which accompany the departure of highly educated persons from developing countries. Apart from loss of valuable human capital, other potential losses in this respect refer to the shrinkage or elimination of externalities that the employment of highly educated creates in the home country. Such deprived externalities for the home country include the loss in productivity of other persons working with the highly educated, the loss from the employment of the departed workers in education and health and more generally, their influence in social policies and institutions (Ozden and Schiff, 2006). According to Lucas (2004), the lost externalities in education from brain drain although theoretically discussed (e.g. World Bank 2000: 39), pinpointing the actual presence of such externalities and their quantification is not an easy task. This is an old issue on which the literature is ambivalent.

The view that the home country bears the cost of education and the host country enjoys the benefits of the generated human capital is not entirely true. Evidence shows that the cost of the investment in human capital is not fully borne by the home country. For instance, in 1993, about 60 percent of US foreign-born college graduates obtained their highest degree from a US university. Only 13 per cent earned their post-graduate degree outside the US. (Lucas, 2004:22). Moreover, these assumed or actual losses from brain drain are partly or wholly counterbalanced by a diffusion of benefits stemming from the emigration of educated people and their success in the host country.

The recent "new brain drain literature" discusses the brain gain coming either from the presence of educated migrants in the host country, such as the promotion of trade, capital flows and technology transfers, or from their absence from the home country, when they are successful abroad, and motivate more higher education in the home country, with the hope or expectation that the newly educated will have the possibility to emigrate and work successfully in another country (Lucas, 2004). The "new brain

drain literature” deals with the brain drain induced brain gain, which may even result in a net brain gain that raises welfare and growth in the home country (Schiff and Ozden, 2006:202).

A number of mostly theoretical, but also some empirical studies belong to this “new brain drain approach” Among them, one may list Stark, Helmenstein and Prskawetz (1997, 1998); Mountford (1997); Carrington and Detragiache (1998,1999); Vidal (1998); Beine, Docquier and Rapoport (2001, 2003); Stark (2002, 2004); Stark and Wang (2002); Adams (2003); Stark et al (2004); Lucas (2004, 2005), Docquier and Marfouk (2004); and Dumont and Lemaitre (2005) [Most of these items are cited in Ozden and Schiff (eds), 2006].

More analytically, emigration may increase if the difference in the return to education abroad and at home is positive, which would subsequently generate higher expected returns on human capital, raising enrolments in higher education (Stark, 2002). Normally, emigration may only absorb part of the new graduates, while the rest will stay home increasing the domestic human capital. Stark shows that the induced more investment in individual human capital would generate more welfare benefits to the whole society. He concludes by saying that migration is “a harbinger of human capital gain, not [a] culprit of human capital drain”, and he continues “even those who cannot gain from migration by participating in it stand to gain from the response of others”. With some reservation for bad quality data of a cross-section of 37 developing countries, Beine et al. (2001) found a positive and significant effect of migration prospects on human capital formation. Carrington and Detragiache,(1999), computing emigration rates by educational level for a large group of 50 developing countries found similar results.

In a more recent more refined paper, Beine et al (2003), using similar cross-section data, found a difference in the impact on human capital depending on the relative size of the emigrated highly qualified persons and the size of human capital in the home country. Countries with low levels of both are positively responding to brain drain, whereas in countries with migration rates of highly educated over 20 per cent, and/or the share of highly educated in the population over 5 per cent, brain drain has a negative impact on growth. In this case, it is interesting that among losers and winners, the winners are found in the demographically larger countries, which make up 80 per cent of the population sample. The authors conclude from this analysis that there is a lack of aggregate empirical substantiation that rich countries steal the highly educated from the poor countries.

A more holistic approach to the brain drain- brain gain issue that captures both negative and positive effects from the emigration of highly educated persons goes through a general equilibrium analysis. The proponents of this approach move one step further from the view that brain drain sends more people to higher education, maintaining that if there is an “induced” turn to more education, more funds will be drawn from the state budget - given that high education is mostly public - depriving other public services, such

as health, of finance and/or leading to the imposition of more taxes. At the same time, greater enrolments in higher education would bring less tax revenue that may also eventually lead to higher taxes, reducing disposal income and holding back the demand for higher education, which may end up with a smaller brain gain (Schiff, 2006:212).

This approach misses, in my view, one important point. It leaves out of the general equilibrium analysis one significant variable, i.e. the often huge amount of remittances that flow into the home country. To mention only one case, remittances of Albanian migrants represented in the 1990's 15-20 per cent of the country's GDP (IMF, 1997, cited in Kule et al, 2002). This money raises the disposal income of recipients and their subsequent demand for various goods, most notably education (Glytsos, 1993; 2001; Docquier and Marfouk, 2006). The induced demand of migrant families generates additional "feedback effects" and contributes to further growth and employment. Other counterbalancing "feedback effects" stem from the return migration equipped with skills and technological knowledge gained abroad that would contribute to growth of the home economy (Docquier and Marfouk, 2006).

Apart from any positive or negative effects, as above for the home country, there may be a brain waste involved when educated migrants very often do jobs in host countries for which they are overqualified. The quality of education that the migrants carry with them from the home country plays an important role in the easiness or difficulty of finding suitable jobs in the host country. More problems face immigrants from Latin America, Eastern Europe and Middle Eastern countries (Ozden, 2006, p.227). Migrants coming from countries where English is predominant and from countries with high expenditures in tertiary education fare better in the US labour market (ibid: 241). More concrete empirical evidence on brain waste for the countries of our interest here is presented in the 4th section of the paper.

3. Empirical Evidence on the Size and Significance of Highly Qualified Immigrants from the perspective of Host Countries

This section discusses the empirical evidence on brain drain and brain gain or waste from the perspective of the major immigrant countries, i. e. US, and Europe with inflows from the rest of the world. Straubhaar (2000:13) discerns "a brain gain for the US, a brain drain for Eastern Europe and a brain exchange in the European Union". Survey data show that 42 percent of all foreign born adults in the US hold a college degree and 23 per cent of them possess post-graduate qualifications. It is interesting for our purposes here that 90 per cent of these educated persons were born in low income regions or in transition economies, including Eastern Europe (Lucas, 2004: 15). Out of 1.4 million immigrants in the USA from Eastern Europe, 39 per cent have college degrees and 16 per cent post-graduate degrees. More particularly, out of the 26,000 Albanian immigrants, 38 per cent hold a college degree (Table 1).

Table 1. US Foreign Born (Eastern Europe) Adult Population by Country of Birth and Level of Education, in 2000

	Primary	Secondary	College	Post-Graduate	Total
Eastern Eur	132,805	478,142	532,425	223,561	1,366,933
Albania	3,540	12,400	9,845		25,785
Croatia	6,725	14,350	14,380		35,455
Poland	48,764	159,356	141,348	47,016	396,484
Russia	22,735	72,544	130,756	73,319	299,354
Other	51,041	219,492	236,096	103,226	609,855

Source Adapted from Adams (2003), derived from US Current Population Survey 2000 (Lucas, 2004: 16).

Between 1990 and 2000, the number of skilled migrants in OECD countries has increased 2.5 times more than the number of unskilled migrants (70 per cent versus 28 per cent) (Docquier and Rapoport, 2004). The portion of migrants with tertiary education is low from Latin American countries, over 50% for Middle East and some African countries, slightly lower than 50 per cent for Eastern European countries and around 40 per cent for Asia. (Ozden, 2006). However, out of the 8,578 Bulgarians admitted for permanent residence in the US, during the period 1996-1998, only 28 per cent were highly educated (Gachter, 2002).

An important vehicle through which highly qualified persons are channelled, at least in the US, are the US higher education institutions. About 32 per cent of all foreign students in OECD countries are studying in the US, while 25 per cent of H1B temporary visa holders have graduated from US universities (OECD Observer, 2002). Evidence shows that about half of the European students obtaining doctoral degrees from American Universities stay there for work after graduation, many of them never returning home (Mahroum 1999:20). More concretely, about 51 per cent earning doctorate degrees in science and engineering from US universities, during the period 1994-1995, four-five years later (in 1999) were working in the US (Finn 2001, cited by Lucas, 2004:23). Another study for eight countries has demonstrated that "scientists and engineers are on the average ten times as likely to emigrate to the United States as are people from other occupations"(Grubel and Scott, 1977:80).

One thing that must be emphasised in this context is that brain drain does not concern only developing but also European Developed countries as well. A recent study by the European Commission, titled "Brain drain study - emigration flows for qualified scientists" shows that 71 per cent of EU 15 born students earning doctoral degrees from US Universities, during the period 1991-2000, had no plans of returning to Europe, and the number is rising (News Alert, 25.11.2003). This is mainly due to Europe's relative deficiency in research and development compared to the US. To satisfy the EU objective of increasing, by 2010, research spending to 3 per cent of its budget would require an additional 700,000 new researchers.

This means that if such a plan is going to be implemented there would be a great demand for scientists within EU15 and a strong motivation of CEEC new members' brains to move in. In fact, this is already taking place. The German government scheme, in 2000, to recruit 20,000 foreign IT workers was considerably implemented in about one year's time, during which Germany managed to get about half of this targeted number mainly from Eastern European countries (OECD Observer, 2002).

The presence of this shortage of highly qualified persons in Europe and the accompanied policies for filling the gap by adopting schemes and facilitations for labour mobility within EU create fears that this would be one-way move from the new CEEC members to the West. For instance, in earlier plans for increasing the intra-European research mobility, under the Marie Curie fellowship project of the EU Research Framework 5(FP 5) in 2002, 14 per cent of fellow holders moved from the then candidate Eastern European countries to the West and only 0.5 per cent of these fellowships receivers moved in the opposite direction. One remedy suggested for having more fellows moving to the East would be to make known the Eastern universities and research institutes for motivating more scientists to move from the West (Ruschkowski 2002).

In spite of all this, global estimates show that countries experiencing substantial emigration do not actually lose many of their highly educated people to other countries. Out of the 20 countries for which emigration data to the US exist, 14 of them lose less than 10 per cent of their highly educated (with tertiary education) persons. The situation for the OECD is not very different; only in 5 of the 13 labour exporting countries to this region lose more than 10 per cent of their highly educated people (Adams, Jr, 2003).

4. Home Country Evidence on Brain Drain and its Impact on the Economy: The cases of Albania, Bulgaria and Greece

A ten country survey in 1997 for the CEEC region, directed by Gerold (1997), has shown that the initial fears of brain drain to the West were not real, the actual outflow being less than expected and that EU programmes supporting science in home countries generate the potentials for further curtailing brain drain from these countries. Investigating future prospects, the survey has revealed that the number of "determined emigrants", i.e. those who take some steps to emigrate as opposed to "undetermined emigrants", i.e. those who like to emigrate under "concrete conditions" is very small for all CEEC. In Bulgaria, the proportion of scientists interviewed that belong to the determined group was 2.3 per cent and for the rest of CEEC a little over 3 per cent, while for the Baltic countries the proportion was 1-1.5 per cent. For Czech Republic and Hungary is a little higher (3 per cent and 4.4 per cent respectively). These findings show a different tendency among CEEC scientists to emigrate. For instance, the highly educated Bulgarians are less inclined than the lower educated to leave their country.

For both Albania and Bulgaria, one may distinguish two opposing views regarding the volume and the relative size of brain drain, particularly from Bulgaria, and two extreme evaluations and one intermediate concerning the seriousness of the brain drain impact on the two countries in question.

Two large sample surveys for Bulgaria four years apart (1989 and 1993) on the intentions of scientists to emigrate have shown a slight increase in the proportion that wanted to emigrate, from 10 per cent to 12 per cent. These intentions were strongly affected by the lack of hope that things will change fast in Bulgaria and the low salaries for scientists. The expressed preferred destination of these potential emigrants was the USA (Chompalov, 2000). According to Bobeva of the Bulgarian Central Bank, 67 per cent of Bulgarian scientists "were inclined" to emigrate, while 6 per cent of them already had contracts with Universities and research institutes. Twenty eight per cent had a preference for the USA, 9.9 per cent Canada, 16.2 per cent Germany, 5.7 per cent Great Britain and 2.4 percent France and Austria (Bobeva, 1996, cited in Sretenova, 2003).

At present, about 900,000 people, representing 25 per cent of the total Albanian population and over 35 per cent percent of the Albanian labour force have emigrated. Of them, 600,000 are in Greece, 200,000 in Italy and the rest 100,000 in Western Europe, USA and Canada (Barjarba, 2004: 232). One million Bulgarians have emigrated since 1989 to the present time, of which 85 per cent under the age of 30, and more want to go.

The Bulgarian National Statistical Institute estimates a gross out migration of about 747,000, during the period 1989 -1998, and a gross inflow to Bulgaria of 277,000, of which more than 80 per cent came after 1993. It is estimated that between 1993 and 1998, net immigration of foreign nationals to Bulgaria was 43,000. But afterwards, net migration was practically zero, small outflows and inflows from other countries compensating each other out. In 1990-92, 40,000 highly qualified Bulgarians were working in Germany, Ireland, France, UK, and other countries in the west (Straubhaar, 2000).

During the first years (1989-1992) of transition, 500,000 Bulgarians have emigrated, of which 345,000 of Turkish origin moved to Turkey. Bulgaria was loosing 45,000-50,000 and more persons every year since 1992. Improved 2001 census data gave a population decrease of 258,373 persons since 1992, while the Bulgarian population decreased by 10 per cent, between 1990 and 2003, to this contributing the elimination of restrictions to the free movement (Sretenova, 2003).

Of all CEEC, Bulgaria had in 1997 by far the highest proportion of workers with tertiary education in its labour force (19.3 per cent compared with 10.7-14 per cent for the others) and by far the lowest GDP per capita (PPS \$ 5,100 compared with 6,757-13,530 PPS \$ for the other CEEC, in 1996).(Sretenova, 2003). Later on, in 2000, the proportion of higher education workers was raised to 21.2 per cent of the labour force.

At the same time, Bulgaria has the highest unemployment of persons with tertiary education compared to the rest of CEEC. Out of the total number of unemployed, 17 per cent were, in 1997, higher education degree holders (Bobeva, 1997 cited in Gerold). The unemployment proportion of higher educated persons is quoted in 2000 as 8.8 per cent of the unemployed (Beleva and Kotzeva, 2001: 23, cited in Sretenova, 2003). Despite this very large proportion of the labour force with tertiary education in late 1990's, and the difficulty of employing them, emigration of highly qualified persons has been considered by some writers minimal. That being the case, it was suggested that Bulgaria was not deprived of any development potential as a result of emigration (Straubhaar, 2000).

Out of the outflow of persons from the Bulgarian science institutions, 11.5 per cent emigrated during the period 1989-1995 of which more than 87 per cent were engaged in research (Gerold, 1997). A 1992 statement by the Bulgarian Minister of Science and Higher Education, that 12,000 scientists emigrated in the years 1990 and 1991, has been considered as an exaggeration, given that only 30, 000 persons had at the time scientific degrees or held scientific tenure (Chompalov, 2000).(Table 2). The table shows the changes in the number of academics over time in the 1980's and 1990's.

Table 2. Changes in the number of academics by academic degree in Bulgaria

Year	Number			
	PhD	MA	Other	Total
1985	1,016	9,616	16,259	26,891
1990	1,316	10,528	19,810	31,704
1995	1,326	10,112	13,410	24,848
1999	1,692	10,190	12,024	23,906
2000	1,566	10,214	11,035	22,815
Change				
1985-90	350	912	3,551	4,813
1990-95	- 40	-416	-6,400	- 6,856
1995-99	366	78	-1,386	-942
1985-99	676	574	-4,235	-2,985
Percent change				
1985-90	34.4	9.5	21.8	17.9
1990-95	-2.9	-4.0	-32.3	-21.6
1995-99	27.6	0.8	-10.3	-3.8
1985-99	66.5	6.0	-26.0	-11.1

Data source: Statistical Reference Book of the Republic of Bulgaria. (Taken from Gachter, 2002)

Concerning the composition of the emigrated scientists, it has been observed that they were from disciplines of high prestige that had contacts with counterparts abroad during their work at home. Thus, of the Bulgarian scientists that emigrated, most were in chemistry, biology, medicine and

physics (*ibid.*), drawn mostly from research and development jobs. The emigration of physicians was not significant. Their proportion per million of working age population remained rather stable during the period 1990-1996. In contrast, the 9,000 scientists and engineers in research and development in 1990 per million people of working age population (amounting to 50,585 in 1988/89, according to the UNESCO Statistical Yearbook, 2001), dropped to 2,200 by 1994 (Gachter, 2002), or to 2,594 in 1996 (Sretenova, 2003). It should be noted that both the number of Bulgarian scientists and engineers and the number of physicians in relation to population are of the highest in CEEC. (Gachter, 2002).

A considerable number of Bulgarian scientists move to the West through research fellowships and other incentives offered by various foreign institutions, such as British Council, Fulbright, SOROS Foundation, etc, located in Bulgaria. It is noted, that by 2003, only in Germany were studying 7,000 Bulgarians and in Austria 4,000, not to mention USA or UK and other Western European countries, and the guess is that "most of them will not return" (Sretenova, 2003: 17).

The potential return of highly educated migrants to the home countries looks indeed gloomy. From the experts and students who study in Italy, Greece, Canada and Germany, only an estimated 5 per cent will return (Horvat, 2004), while 63 per cent of those working were planning to state there for good. Also, another 63 per cent of mostly young scientists working in Albania "plan to leave the country for a long time or forever". (Barjarba, 2004; Horvat, 2004).

A quick glance at the domestic enrolments in tertiary education in these two countries, as emigration was in progress is in order in this context. One can observe two opposite tendencies. In Albania, the gross enrollment ratio (enrollments/ number of persons of tertiary education age) is gradually increasing from 14 per cent to 16 per cent, during the period 1988-2003. The number of students enrolling in tertiary education has doubled in Albania in seven years: from 21,645 in 1990 increased to 40,125 in 1997, with no change in the subsequent three years. The corresponding ratio for Bulgaria, already much higher than in Albania, is dropping from 43 per cent to 39 per cent. Naturally, there are many reasons that these ratios may move one way or the other to be able to hint anything concrete about the brain drain induced brain gain, discussed in the previous section.

Institutional attractiveness is a crucial factor keeping scientists from emigrating (Casey et al 2000). There are some hopes expressed for Albania that the improvement of their universities and research institutions would motivate their emigrated scientists to return after some time abroad. These potential returnees would carry with them the human capital acquired during their absence, which will make them produce better brain gains from what they might have contributed had they not emigrated. This notion is based on the alleged experience of other countries indicating that about half of students and scientists return (Tafaj, no date). For Bulgaria, Chompalov emphasises the "importance to preserve the creative research

and development manpower potential, [otherwise there would be] tragic long-term consequence for the country”.

Turning to the “brain waste” referred to in the earlier section, there is the notion that the brain drain from Albania does not become a brain gain for the receiving countries, but rather a brain waste, considering that a high proportion of these people work in jobs for which they are overeducated. Specifically, in this situation are found 74 per cent of the educated Albanians in Greece, 67 per cent in Italy, 58 per cent in Austria and 70 per cent in the US (Barjarba, 2004). Eastern European highly qualified migrants in the US work in any kind of jobs, as for instance as taxi drivers for which are naturally overqualified (Schiff, 2006)

Concerning in particular the highly educated Albanian and Bulgarian immigrants in Greece, some recent findings show in fact a brain waste. A microsurvey in Greece found that 34 per cent of the 153 interviewed Bulgarian immigrants, the bulk of which were female employed mostly in housing, had partial or full higher education (Sarris and Markova, 2001, p.171). Another survey, conducted in 1998 in Albania, interviewed 1,500 individuals who have returned to the country from their previous migration in Greece. About half of these people “had some experience of either higher education or vocational training” (Kule et al, 2002:232). And yet, for the jobs they exercised in Greece, hired male immigrants were overeducated by more than 50 per cent and hired female immigrants twice as overeducated, compared to their Greek counterparts who are also overeducated for some jobs (Glytsos, 2005:834) (Table 3).

Table 3. Hired Immigrants and Greeks with Higher Education, in lower quality jobs (overeducated workers as a percentage of total hires), 2000

Gender	Immigrants	Greeks
Both genders	66.1	37.0
Males	63.1	42.3
Females	67.9	32.4

Source: Glytsos, 2005. (Adapted from Lianos (2003)

An opposite view on this is proposed by Bobeva, who claims that only 13 per cent of emigrated Bulgarians scientists that left research institutions do jobs for which they are overqualified. This points, according to her, to the phenomenon of the brain drain indeed, given that the bulk of these migrants are engaged in scientific work in the host country. Meanwhile, only 11 per cent of the emigrated scientists returned. In counterpart, Bulgaria, as other CEEC in transition, has received highly skilled workers from other countries “farther east and farther west” (Gächter, 2002).

The significance of the brain drain effects on the economy and society are hotly debated in both Albania and Bulgaria. It appears however that no serious empirical studies exist to substantiate the impact of brain drain on the home developing countries in general. This is mainly attributed by some to the ‘lack of harmonized international data” by country and educational level (Beine et al, 2003). This notwithstanding, one can find generally, as

noted above, two extreme views and one intermediate, proposed by researchers on the seriousness of brain drain. At one extreme, Albanian and Bulgarian researchers consider brain drain from either country as very serious, putting the economic future and education and research of these countries in jeopardy (see for Albania, Tafaj, no date; and for Bulgaria, Chompalov, 2000).

Tafaj maintains that the problem of brain drain should be made “a burning issue of Albanian society”, but in fact no attention is paid to it by the authorities and political institutions. He evokes the Albanian Human Development Report (UNDP, 2000), to point out that during the period 1990-1999, about 40 per cent of the scientists of universities and research institutions have emigrated, a proportion raised to 45 per cent for the period 1990-2003, while 67 per cent of those receiving Ph.D’s in the west also emigrate. Similar evaluations are also made by others for Albania, claiming that Albania “is currently undergoing a potentially devastating brain drain. Around a sixth of the population—including roughly a third of the country's Intelligentsia—was seeking work outside the country in 2001 (Tomiuc, 2001, cited in Horvat, 2004)”.

Earlier calculations by some Bulgarian authors predicted that, by 2007, 74 per cent of the professors and 24 per cent of the associated professors will have to retire, while by 2012, correspondingly 89 per cent and 52 per cent of these scientists would have to do so. This implies, as the argument goes, that it is urgent to motivate Bulgarian scientists to return from abroad and others to discourage leaving, otherwise Universities would have serious problems of recruiting high level teaching staff (Velev, 2002:4, cited in Sretenova, 2003). This may have very serious implications on the quality of higher education with further negative effects on the society at large. Others maintain that “a weak educational system today will produce a weak social elite who will be responsible for guiding the new postcommunist society in the next decade [with gloomy] prospects for creating an effective and responsive social and political order” (Tascu, Noftsinger, Bowers 2002: 226, cited in Horvat, 2004).

According to this extremely pessimistic view, “the negative impact worsens exponentially each year” (IOM 1997), considering that out of the estimated annual emigration of 50,000 from Bulgaria (Economist, 2003), approximately 20 per cent are highly educated. The official view expressed by Bulgarian governments since 1997 is that the emigration of highly qualified persons would deter economic and social developments, particularly the promotion of the knowledge based society (Sretenova, 2003).

Concern is expressed that this drain of highly qualified persons would have not only economic but also political and social implications. Highest state officials are afraid that “the absence of discerning and educated voters [due to brain drain] poses a serious threat to democracy and the electoral process” (Horvat, 2004). As in the case of Albania, some writers worry that the future democratic development in Bulgaria would be hindered by the

lack of creative research that the mass emigration of the highly skilled deprives Bulgaria (Chompalov, 2000).

The other extreme, expressed mostly by outsiders of these countries, claims that “there are no negative effects of highly skilled emigration and that it should not be cause for concern” (Horvat, 2004). There is in fact the notion that what is negative is the lack of “any benefits from this form of emigration” (Sretenova 2003), while “for the moment, the only possible benefits from the drain are the growing remittances” (Horvat, 2004), which in 2003 amounted to \$780 million (Barjarba, 2004). In the same spirit, Professor Kristen Ghodsee at the Bowdoin College in Maine, researching the Bulgarian situation for more than a decade, claims that “Bulgaria’s case has not been one of ‘brain drain’ (the Washington Times, December 27, 2004).

This negative view is also shared by others. Gächter (2002) maintains that the claim that Bulgaria has suffered from brain drain does not seem to be valid, since evidence shows that MA and Ph.D holders of all fields of science have stayed home. A 1996 study found that out of the 6,005 scientists that lost their jobs between 1989 and 1996 and almost the same number during the period 1993-2001, by official data, only 600 emigrated (Beleva/Kotzeva 2001, cited by Gächter, 2002; Sretenova, 2003:20). The run observed from the Bulgarian academic system turned mostly to other occupations or to retirement and less to emigration (Gächter, 2002). The bottom line of Gächter’s analysis is that there has been only “a trickle of highly qualified emigrants [that] even cumulatively it is not big enough to make any difference at all”. Gächter attributes the low brain drain partly to a lack of demand for Bulgarian scientists abroad.

More refined empirical analysis, occupying an intermediate position, shows a positive impact of brain drain on the level of education (Beine, Docquier and Rapoport, 2003), a negative impact for small brain drain cases (Lucas, 2005) and no impact on growth (Faini, 2005) [all cited in Ozden, 2006]. In this context, Davies (2003:17) claims that per capita growth is not positively affected by human capital, while several other studies find the contrary. Some question the causality between growth and education, arguing that expected growth affects education rather than the other way around (Bils and Klenow 2000) [cited in Lucas, 2004]. Perhaps in the same league belongs the view that predicts only a long term negative impact and does not recognize the significance of remittances as a counterbalancing benefit, claiming that they “do not have strategic value for the country” (Horvat, 2004).

Greece has been experiencing considerable brain drain in the post second world war period to North America and Western Europe, and is recently experiencing an intake of highly educated persons from CEEC. (ELKE-Hellenic Center for Investment, 2004). Although data on the exodus of highly qualified people from Greece is scant, one should seriously consider a recent government press report (Ministry of Development, 19.8.2005), stating that over 60,000 Greek students study in foreign universities. According to the UNESCO Statistics, the figure was in 2002/2003, 50,252, of which 43,047 were distributed in five major countries of study (United Kingdom 22,485; Italy 7,979; Germany 7,798; France 2,444 and US 2,341).

According to the British Council in Greece, in 2003, 24,275 Greeks were studying in British Universities, of which 13,180 in post-graduate studies. It is very interesting that huge China comes second with 17,682 students in Britain (Naftemboriki, 29.8.2005).

Precise figures of those that stay after finishing their studies to work in these countries do not exist, but it is well known that a considerable number, particularly of those with post-graduate degrees, do not return, especially from the US and the United Kingdom, but from France too. Against this situation, some "romantic" official, but also unofficial "dramatic" flashes of interest emerge, from time to time, in political and scientific circles and loud voices are heard on the benefits that the repatriation of the Greek scientists would bring to the country. Unfortunately, no practical effective policies accompany this wishful thinking for motivating the return of the educated Greeks from abroad. But apart from this, neither any preceding official documentation nor any serious research has supported the view that the absence of this part of highly qualified people could harm or deter Greece's economic growth or hold back its research activity in the low level that it is, irrespective of the brain drain.

Yet, very recently, something seems to be moving, at least at the search and organisational level. A Committee of Professors was set up to elaborate a new institutional framework of research in general and for attracting Greek scientists from abroad to return to the country, in particular. The Committee has suggested that "the call of new researchers from the reservoir of the drained manpower of diaspora must be one of the top national priorities for Development and Education. Otherwise, in view of the increasing leakages abroad, the [Greek] Universities will soon have only a small high quality scientific and research staff" (Report by the Committee for the Institutional Framework of Research in Greece, 28.6.2005).

In general, brain drain from Greece generates brain gains in the receiving countries, since the educated emigrants work mostly in occupations worthy of their qualifications in the US, Canada and Europe. In contrast, as we have previously shown, educated people coming recently to Greece from CEEC do not seem to generate brain gains for Greece since they work mostly in jobs for which they are overqualified.

5. Conclusion

Despite the theoretical debate of the multi-directional effects of the brain drain in the economy and society of the home country, the empirical research is limited with contradictory and confusing results. In fact, inferences are often made from casual observations without any convincing elementary analysis. This is the result either of passionate concern about the potential risks that are in store for the future developments of the countries in transition, or because an appropriate methodology has not been developed, or even because suitable data for serious analysis are lacking.

The consequence of these inadequacies is the partial ad hoc and superficial practical consideration of the issues referred to brain drain, providing ambivalent lines of thought, which formulate attitudes that often imply inappropriate, futile or ineffective policies. Measures for merely hindering the emigration of educated people or efforts to motivate their return cannot by themselves alone, without a friendly comprehensive institutional and pragmatic framework, promote development and growth, and elevate education and research to higher quality levels.

The discussion on the brain drain from Albania and Bulgaria, but even Greece - with a long history of emigration of highly qualified persons - has not escaped the stereotype way of thinking that had emigration of educated persons not taken place, the economy and society would have been much better. Such considerations ignore the high and chronic unemployment of educated persons or their employment in jobs for which they are very often overqualified. Apart from the waste of expensive human capital that this situation entails, the dramatic turn of these people from the precarious state of underemployment to a degrading state of redundancy, to which the educated workers in several of Eastern European economies in transition are subjected, adds to the difficulties that these people are facing. Thus, any efforts to motivate return are complex and should be dealt with simultaneously at the organisational and the practical level, after thorough investigation and research at all fronts of economic, social, educational and political aspects.

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