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SKILLED MIGRATIONS

International Seminar

Edited by Tony Paganoni and Enrico Todisco

Foreword by John Salt

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Skilled migrations

International Seminar, Latina - October 28-29, 1993

Edited by TONY PAGANONI and ENRICO TODISCO

Stampato con il contributo dell'Istituto Nazionale di Statistica

II. *East-West skilled migrations*

III. *Students, professionals, training in foreign systems*

NOTE FROM THE EDITORS

Historically, voluntary or involuntary movements of persons with specialized qualifications and/or skills have been a very important means of transferring both knowledge and technical know-how from one place to another. From times immemorial, scholars, astronomers, linguists, as well as craftsmen with engineering, military and printing skills have been known to move within or between empires. The contemporary "brain drain" reflects earlier flows, but within drastically new and ever changing inter-state and inter-region economic and political settings. Rather than reciprocal, as in former ages, the movements have now turned asymmetrical and overwhelmingly from less to more developed countries. Latest studies have come to regard brain drain as a form of "reverse technology transfer", perhaps underlying the need to reduce antagonistic discussions. What is also new is the constant concern over such flows: notwithstanding its minuscular dimensions, when related to total international migrations, it has remained "a hypersensitive issue which can neither be satisfactorily resolved nor swept under the carpet".[1]

Notwithstanding the longevity of the phenomenon and related questions and disputes, precise statistics on skilled and highly skilled migrations are lacking. Varied estimates and calculations are not wanting.[2] *According to UNCTAD data, migration of specialists in recent years have reached almost two million individuals. What is further undermining efforts aimed at determining both quantitative and qualitative data is the lack of a proper definition or consensus in international circles as to who can and should be considered a specialist or highly skilled migrant: any high level manpower, a trained specialist, an university graduate recognized as such by tertiary institutions and by research and development organizations in developed and undeveloped countries?*

Keeping in mind the aforementioned restraints and not ignoring the dimensions as well as the varied assortments (technicians and researchers alongside sportsmen and religious and media people) of skilled flows in the international circuit, problems mostly confronting Europe are dealt with in this issue of «Studi Emigrazione».

[1] AARON SEGAL, *An atlas of international migrations*. London, Hans Zell, 1993, 233 p.

[2] UNESCO, *Brain drain issues: cases of Russia and Ukraine*. Technical Report n. 18. Venice, ROSTE, 1994, 215 p.; SOLON ARDITTIS (ed.), *The politics of East-West migration*. London, St. Martin's Press, 1994, 257 p.

Besides the above worldwide restraints, since 1989 in Europe East-West flows of the skilled have been belaboring under several dilemmas: in the East, the problematic transition to an open market economy, the collapse of the past regime and of its highly structured military and industrial apparatus and the ensuing sharp reduction and curtailment of R&D activities; in the West, the record level flows from the South, notwithstanding its maritime borders, since the mid 1970's combined with the opening up of new land migration fronts in the very heart of Europe, with quite distinct determinants, structure and growth potential. Notwithstanding the fact that the levels of migration from the South continue to outstrip the level of flows from the East, the alarm has not subsided:

"Today it can be said that migration from the East still constitutes a nebular phenomenon in the eyes of Western European policy-makers: owing to its often illegal character, East-West migration can be measured only partially; its effects on receiving countries can be grasped only sectorally, if not anecdotally; models allowing the forecast of the development of East-West migration over the next few years are necessarily incomplete, as they cannot integrate the entire range of such fluctuating variables as ethnic conflict, nationalistic/communist thrust, or recession".[3]

Skilled flows in general (and those from Eastern Europe are no exception) are part of international migrations, but stand apart because of their unique features, one of which is their greater impact on both receiving and sending countries. In terms of east-west flows of the highly skilled, two factors have sparked off the attention and concern of governments, intergovernmental agencies, as well as of international and private organizations: in the East, the sizeable number of redundancies, resulting from the reassessment of national or regional priorities across the whole range of research and development institutes; and in the West a documented rising shortage[4] *of adequately trained manpower with the numbers of researchers being equal, on a proportionate basis, to less than half that of Japan and of the USA. This does not imply that Western Europe has been able and/or willing to absorb the great majority of scientists and professionals migrating from the former Soviet bloc or, viceversa, that their preferred destinations were expected or turned out to be western European countries.*

The Latina seminar (October 1993) *gave a good number of experts and scientists, several from eastern countries, the opportunity to exchange views on implications and consequences of skilled flows.*

[3] S. ARDITTIS (ed.), *op. cit.*, p. 4.

[4] IRDAC, *Opinion on skill shortages in Europe.* Brussels, IRDAC, 1990.

The Centro Studi Emigrazione - Roma (CSER) has subsequently agreed to produce a bibliography on skilled migrations («Studi Emigrazione», n. 112): 853 entries have been culled from library resources at CSER (Rome) and at CIEMI (Paris), from eight specialized journals and by using a snow-ball technique on a sizeable variety of other sources.

This first database lists, in alphabetical order, publications according to author's name or title of the pubblication, subject and geographical indexes. In relation to conceptual difficulties mentioned above, it should be noted that "aside from the exchange of technicians, professionals, scientists etc... we have also included other categories, such as qualified professionals, students enrolled at universities for graduate or post-graduate courses and foreign entrepreneurs".[5]

This issue of «Studi Emigrazione» carries most, not all, papers which were presented at the Latina Conference. A delay has obviously occurred, caused mostly by technical difficulties encountered in the attempt of having the complete proceedings of the Conference published. Over the last several months, most of the present articles have either been revised and/or updated extensively or substantially edited. Much more than in the past, this process has improved our appreciation of existing inadequacies in the gathering of data and analytical information and of the momentous task which lies ahead for policy makers and experts alike in achieving a moderately good grasp of a phenomenon which, in our view, is inherently both elusive and yet so prominent in the increasingly interdependent world of technology. Lastly, we wish to gratefully acknowledge the cooperation given enthusiastically by all authors and in particular by John Salt.

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[5] G. MAFFIOLETTI, E. TODISCO, F. TRAMONTANA (a cura di), *Bibliography on skilled migration*, «Studi Emigrazione», 112, 1993, p. 592.

FOREWORD

1. *Introduction*

In October 1993, the first international seminar on the subject of "Skilled and Highly Skilled Migration" took place at Università Pontina in Latina, Italy. The brainchild of Professor Enrico Todisco (Dipartimento di Studi Geoeconomici, Statistici e Storici per l'Analisi Regionale, Università "La Sapienza", Rome), and with the assistance of a number of organisations,[1] the seminar brought together over 30 researchers and specialists in the field for a two-day meeting.

The aim of the seminar was, for the first time, to review the state of the art in studies of international migration of highly skilled people. The focus was predominantly European, but with an Asian and American regional input as well. The papers were organised, *a priori*, into four broad themes: spatial and temporal patterns of skilled movements; the transition to open markets, with reference to changing East-West migrations in Europe; students, professionals, scientists, and their training and employment in private or public foreign systems; skilled people and new development models, with particular reference to theoretical approaches. What emerged, as the seminar proceeded, was the existence of a number of cross-cutting themes.

The papers in this volume are a selection of those presented at the seminar, revised and updated. The purpose of this foreword is to indicate the main themes that emerged from the four seminar sessions, and will make reference to some of the papers not published herein.

Two underlying themes throughout the seminar were inextricably linked: definition of the interest group (the skilled and highly skilled) and development of a body of theory to explain its migration patterns. Both themes were raised in Todisco's introductory overview, and picked up in a number of the papers.[2]

2. *Problems of concept, definition and data*

2.1 *Conceptual issues*

Implicit in the seminar discussions was the distinction between two basic concepts of migration by the highly skilled.

[1] Centro Studi Emigrazione, Roma; Center for Migration Studies, New York; Consiglio Nazionale delle Ricerche, Italy; European Association for Population Studies; Istituto Nazionale di Statistica, Italy; Italian Ministry for the University and Scientific and Technological Research; Società Italiana di Statistica; UNESCO, Regional Office for Science and Technology for Europe; Camera di Commercio, Industria, Agricoltura e Artigianato, Latina; Consorzio per l'Università Pontina, Latina; Ente Proviniale per il Turismo, Latina; Università "La Sapienza" di Roma.

[2] See ENRICO TODISCO, *Intellectual, professional and skilled migrations*, «Studi Emigrazione», (XXX), 112, December 1993.

1. *Brain exchange* (including *Brain gain* and *brain drain*). The essence of this multi-faceted concept is that those who move take on a job in the new location broadly commensurate with their skills and qualifications. Brain exchange implies a two-way flow of expertise between origin and destination. Where the net flow is heavily in one direction, the terms "brain gain" or "brain drain" tend to be used. Brain exchanges in some form are characteristic of all economies, and are one component in the complex of flows of goods, information, finance etc. between advanced economies. Although the notion of brain drain was originally addressed to migration from Europe (specifically the UK) to North America in the 1960s, it is now used to describe the net loss of highly skilled labour from Third World countries and, more recently, from East to West in Europe.

2. *Brain waste.* This concept describes the deskilling that occurs when highly skilled workers migrate into forms of employment not requiring the application of the skills and experience applied in the former job. There is abundant evidence of this process, especially where standard of living gradients are steep. It was clear from several papers that this has become an increasingly common form of East-West migration in Europe. However, brain waste appears in at least two major guises: actual international migration, and inter-sectoral movement without migration.

2.2 *Definitional problems*

There is no agreed concept or definition of the highly skilled, something that emerges frequently in the papers of this volume. Most authors regarded the highly skilled as professional, managerial and technical (PMT) specialists, the group as a whole consisting of a series of largely self-contained and non-competing sub-groups, among whom levels and duration of training are such as to lead to low elasticities of supply. This definition was most clearly adopted by Toninelli in his paper (not included) on professional and management internationalization in IBM-SEMEA. A practising personnel manager, he was concerned with how transnational corporations identify and develop their PMT staff. This was also the definition used by Salt and Singleton. Increasingly, though, students and trainees are (rightly) being considered as part of the highly skilled group, and their migrations often follow a different pattern and regime than their older counterparts. Several of the papers dealt specifically with students and trainees, including Fellat, Borgogno and Vollenweider-Andresen, and King and Shuttleworth. Irbeç (not included) stretched his definition to include those receiving post-move training, albeit to only a modest level.

2.3 *Data problems*

Despite the obvious importance of migration by the highly skilled to the development and management of the international economy, knowledge of the patterns and processes of their movement is poor. What is probably the most

comprehensive bibliography on the subject (*Studi Emigrazione*, 112, 1993) illustrates the partiality of our knowledge.

There are few accessible data on the scale and nature of their migrations. Partly this is because their small numbers easily render them statistically "invisible", particularly in sample surveys like the European Labour Force Surveys. It is also because such people are not perceived to be a "problem". Their middle class characteristics, and for most their colour and culture, render them socially "invisible".

A major difficulty is that statistical systems inevitably have difficulty coping with an occupational group so ill-defined. There is no commonly agreed international definition of the highly skilled, and the breakdowns used by different countries are not necessarily comparable, even where data are available (as in the New World immigration countries). A particular problem is that highly skilled migrants often move on a temporary basis, for well-defined periods, and are omitted from those analyses that include only permanent immigrants. This remains a major problem in comparing labour migration in the Old and New Worlds (a point that emerged in Kanjanapan's paper on migration to the USA - not included).

Several authors elaborated on the problems of data availability, and the constraints on analysis imposed by poor information. Montanari, focusing on regional emigration rates in Italy, illustrated the small numbers involved at that level, and the difficulties of generalising. Rodriguez (Spain), Salt and Singleton (UK), and Termote (Canada) discussed the consequences of most data sources being administrative and of variable quality. Other authors used sample surveys to generate their own information. Dolgikh, Ledeniova and Tikhonov, in their studies of emigration intentions from Russia, showed how revealing such studies can be, but also the dangers of extrapolation in a rapidly changing situation. Grecic, struggling to carry out a questionnaire survey from sanctions-hit Belgrade, resorted to using e-mail to survey Yugoslavs in US universities, with attendant problems of bias in response. Fassmann and Reeger based their study on an analysis of job advertisements in Viennese newspapers. What emerges overall from these attempts to use existing data and generate new statistics is the importance of using all available sources in studying a phenomenon that largely escape normal statistical accounting.

3. *The role of highly skilled migration in the modern economy*

The main reason for the migration of the highly skilled is economic. Modern industries and services increasingly rely upon the acquisition, deployment and use of human expertise to add value in their operations. Theories to explain this form of migration have only comparatively recently begun to get to grips with two fundamental and interrelated processes: the organisation of employment and the development of internal labour markets (ILMs) by employers; and the institutional framework created by governments designed to facilitate the global interchange of skills.

Several papers developed these ideas, and particularly the importance of the new international spatial division of labour. Salt and Singleton specifically dealt with the role of staff transfers within transnational corporations (TNCs), and the ways and extent to which government institutions help manage the process. In the different economic environment of Eastern Europe, Redei (not included) showed the growing role of TNCs in Hungary, and presented the early results of a study of the associated inward transfer of western capital and expertise. Rodriguez also developed the theme of the role of large institutions, in moving high level skills to Spain. Kultalahti, focusing on emigration from Finland, demonstrated how the internationalisation of economic development, and the development of modern information technology, have created an integrated but complex pattern of movement within the Western European economy as a whole.

4. *The East-West "brain drain" in Europe*

A major theme of the seminar was the actual and potential emigration of the highly skilled from Eastern Europe and the former Soviet Union (FSU). It was clear from the papers at the seminar that East-West brain migration needs to be disaggregated. First, there seem to be different processes occurring in the FSU compared to other countries of Eastern and central Europe. Second, the impact of the migration upon sending and receiving countries and the migrant themselves is mediated by a distinction between nationalist *vs.* internationalist *vs.* behavioural perspectives; internal *vs.* international brain migration; and brain drain *vs.* brain gain *vs.* brain waste.

Implicit in several papers was brain waste, although the conclusions drawn depended to some extent on the authors' perspectives. From a viewpoint in the West, Fassmann and Reeger showed how job seekers adjusted (downward) their aspirations to market demand as time went on. Wihtol de Wenden and de Tinguy, based on their fieldwork in Poland, Bulgaria, Romania and Russia, emphasised the diversity of migrations, together with their transitory nature. Both these authors saw the mobility of elites as an historic opportunity, emigration being linked with training and return. Malacic adopted broadly the same view for Slovenia. Rhode (not included) adopted a more pessimistic stance, suggesting that the Soviet science system particularly was characterised by low levels of economic efficiency, nepotism, political appointments and huge and heavy bureaucracies, with personnel who were often not the most flexible members of society, and consequently lacked the ability to integrate into high expertise sectors in receiving countries. In contrast, Dolgikh, Ledeniova and Tikhonov each found significant variations in intention-to-emigrate rates according to a whole series of demographic and socio-economic factors, which basically suggested that those most inclined to leave were the youngest, most able people with the greatest potential in the most important sectors or disciplines for the future economic development of their countries. Tikhonov's paper was particu-

larly revealing in its attempt to relate emigration to the way in which the state capitalist system (communism) had developed.

5. *Students and training*

Literature on migration in the academic sector has traditionally focused on its relevance to the brain drain, and to reverse transfers of technology. However, there are good grounds for arguing that migration associated with the acquisition of tertiary education, and of the skills associated with teaching and research, constitutes a form of highly skilled migration in its own right. First, the international movement of students represents the internationalisation of knowledge, and is arguably the most effective vehicle for creating a global migratory elite. Second, the provision of tertiary education internationally is now a major business and source of income, both directly (through fees received in destination countries) and indirectly (establishment of links). Second, foreign students (particularly postgraduates) who stay on in the receiving country constitute a relatively cheap source of skills. Third, there are important implications of student migration for home countries, largely depending upon whether students return following the completion of their studies. Finally, it is clear that the volume of international student migration is enormous.

The issues of student moves *per se* was the subject of three papers specifically. Fellat focused largely on practicalities in his study of students and researchers leaving Morocco for France, pointing out the difficulties of building up a research base if the best young people left, and to the need for co-operation between sender and receiver in developing programmes of return migration. The social dynamics of the emigration of graduates from Ireland (Western Europe's only remaining "classical" emigration country), was the subject of King and Shuttleworth's paper. They demonstrated the ambivalence of those involved: managing to preserve their ethnic identity while interacting vigorously with host populations. Borgogno and Vollenweider-Andresen adopted a more philosophical approach in their study of student movement from countries south of the Mediterranean. Developing the theme of emerging student market, they argued that universities in north-west Europe have adopted a political-economic role. This calls into question their place in the internationalisation process, and particularly whether they are now to be seen as agents of a continuing colonisation. Fakiolas also took a broad view of the role of education in stimulating migration, and particularly the need to think hard about the implications of the location of university teaching in a world of growing specialisms.

6. *Retrospect and prospect*

Where do we go from here? Migration by skilled and highly skilled people is an extremely diverse phenomenon, almost certainly more so than contemplated by most of the participants before the seminar. A clear need is for a

typology that expresses that diversity, accompanied by a review of possible data sources.

The principal task now is one of theory development. There is a growing, though still quite specialised, body of theory seeking to explain the migration of the highly skilled in relation to the operations of large employers and the globalisation of economies. Suitable theoretical frameworks for analysing brain drains and wastes, and the growing student/training market, scarcely exist. A number of papers here do, however, indicate the directions such developments might fruitfully take.

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The international migration of expertise: the case of the United Kingdom

1. *Introduction*

In recent years there has been a growing recognition of the importance of international recruitment and movement by the highly skilled. Modern industries and services increasingly rely upon the acquisition, deployment and use of human expertise to add value in their operations. Where this expertise is not available locally, employers frequently search for it abroad. They do this in a number of ways, including direct recruitment from the external labour market, from within their own corporate internal labour markets, by acquiring businesses overseas, through partnership agreements or joint ventures, or from specialist firms. Frequently this movement is relatively short-term, and takes the form of a secondment or limited period assignment, perhaps for two or three years only. The consequence is that the economically most developed countries routinely exchange high level skills, while increasingly the less developed world is being brought into skill exchange and "brain drain" networks.

Theories to explain this form of migration have only comparatively recently begun to get to grips with two fundamental and interrelated processes: the organisation of employment and the development of internal labour markets (ILMs) by employers; and the institutional framework created by governments designed to facilitate the global interchange of skills. One reason for this tardiness has been a reluctance by many migration scholars to accept that such movement is really migration at all, since there is no intention to settle in the destination country. Another reason is that highly skilled migrants tend to be middle class, well paid and "invisible". Finally, there is little empirical statistical information on either the numbers or characteristics of highly skilled migrants, though the size of flows is usually thought to be small and largely insignificant in the context of total movement.

Rather than present new theories, the aim of this paper is to use empirical information to demonstrate how the interaction of the two processes introduced above creates a selective and highly managed flow of skills into a modern economy. Such processes of selection and management are largely instrumental

in maintaining a highly dichotomised pattern of labour migration in present-day Europe, the extremes of which are senior executives transferred by large corporations, and low-paid illegal immigrant labourers working in informal economies.

The paper begins by identifying the role of the state in the management of immigration. It then reviews briefly the part played by the migration of the highly skilled in the modern economy, especially in the process of corporate transfers within internal labour markets, and identifies some major trends in its development. Unpublished work permit data from the UK show the government's role in the selection and management of inflows of highly skilled staff, especially corporate transferees, from non-EU sources. Finally, an attempt is made to determine the overall scale of international corporate transfer relating to the UK labour market, and the cost of the process to employers.

2. *The management of migration*

There seems to be little doubt that for a multiplicity of reasons the volume of international migration in the world is rising. One consequence in the developed world in general has been a growing concern with the management of migration flows. Increasingly countries find themselves in the position of developing policies to exclude certain types of migrants, while at the same time allowing entry to those their international commitments oblige them to take (e.g. member nationals from free movement networks like the EU; refugees), or those whose presence is deemed economically desirable. The highly skilled may be found in both groups.

Although there is a consensus that certain people should be allowed to pass more or less freely across borders, there is no guarantee that states will agree on the same categories. All European states operate some form of selective labour entry which emphasises the virtues of skills and youth. However, these criteria are usually flexible enough to accommodate workers for whom entry restrictions have been removed or minimised. Increasingly the highly skilled move more freely as work permit systems change to accommodate the global search for expertise. In the New World such people are identified on labour market grounds in lists of preferred occupations. Outside these groups of skilled workers there is a general trend towards tighter control. Indeed, in most of Europe "primary" official labour migration has largely ceased.

A recurring theme underlying the management of the migration system is a process of immigrant labour selection. It operates in the New World via points systems and preferences, government being the principal agent of selection. In Western Europe, the labour market has tended to be the locale for selection, with employers making decisions, subject to a set of government-imposed guidelines. For migration by member nationals within the EU, labour market priorities predominate.

It is by no means clear where the focus of selection lies, however. At a simple level, the "state" decides. In effect, decisions are taken at different points in the governmental apparatus, with different ministries responsible for different ele-

ments in selection, leading to difficulties in coordination. Private employers have an important voice, though their freedom to recruit varies considerably, both between and within countries. Where free movement provisions exist, employers face few restrictions on their ability to recruit abroad. They also face few restrictions on their ability to recruit high level skills, especially if they are large TNCs.

3. *Highly skilled labour in the modern economy*

Flows of highly skilled labour occur within a new global division of labour which has resulted from the restructuring of the world economy. New technologies have revolutionised both processes and products, altering the equation between capital and labour. The sectoral structure has changed dramatically over the last two decades or so, with major job losses in manufacturing, while growth has occurred principally in the service sector. As the speed and reliability with which people and goods could be moved between regions has increased, so has the geographical distribution and complexity of industrial organisations been able to exploit the newly accessible territories.

The principal flows of highly skilled workers today reflect the global expansion of world trade, the international expansion of trans-national corporations (TNCs), and the activities of institutions such as government departments and recruitment agencies (Findlay, 1990; Salt, 1992). This has meant the evolution of a pattern of migration dependent less on the aspirations of individuals to move as in other forms of migration, and more on changing patterns of demand and on the development of an organisational infrastructure under which the moves take place. This infrastructure includes a system of hierarchical career development, together with a rewards' package which is designed to minimize the financial and psychological impact of migration on the individual and his/her family.

All governments agree on the advantages to their economies of more or less open borders for high levels of skill and expertise. Recognition of the importance of migration by the highly skilled partly underlies recent policy decisions by the main settlement immigration countries. Australia, Canada and the US have developed programmes to increase the numbers and proportion of the highly skilled in their overall intake. These developments draw attention to the international immigration market among the highly skilled (Borjas, 1990). This market is a feature of the development of a global economy characterised by the internationalisation of companies and of human resources.

Two particular contemporary trends in migration by the highly skilled are worth picking out. First, there seems to be a growing relationship between migration and business travel. Migration studies have traditionally eschewed consideration of short-term visits within mobility regimes, but there are some grounds for thinking that migration, secondment, short-term assignment and business visits are increasingly substitutable (Salt and Ford, 1993). For example, modern air travel means that it may no longer be necessary to have a permanent

expatriate presence with a major overseas customer: if something goes wrong a trouble-shooter can be sent out at a few hours notice. Similarly, and particularly within Europe where distances are relatively low, joint ventures may be serviced by frequent short-term trips rather than by secondment (see Salt, 1990; Ford, 1992).

The second trend is the relationship between migration by the highly skilled and the changing organisation of production in modern economies. Both internal and external labour markets have become increasingly segmented in response to needs for specialist skills. Technological and communications changes have increased specialisation and created a hierarchical system of function and control. In response, companies have become more organic, undergoing continual development and change. The largest have evolved into global organisations. The consequence of these developments is that multinational employers have reorganised their allocation of labour in a highly segmented fashion, both occupationally, based on technical skills and qualifications, and on a geographical basis. A spatial relationship between parent, branches and subsidiaries has evolved, with attendant patterns of migration by the highly skilled. The mobility of these workers is thus a consequence of how the market for specialist skills has metamorphosed.

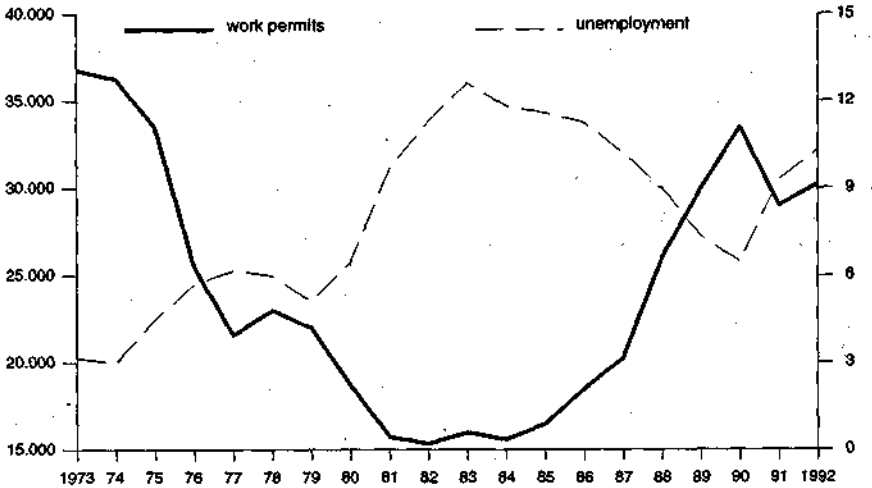
This process is unlikely to halt in the near future, though there may be fluctuations in response to trading conditions. In Europe the pattern will be in part determined by how the new Eastern European economy is incorporated into the global capitalist system. It can reasonably be expected that skilled westerners will continue to be assigned by their employers to Eastern Europe, while easterners will be relocated westwards for training and career development purposes.

Migration of expertise should thus continue to rise as companies develop internationally in their business and organisation, become more complex, and increase in size. For those corporations still internationalising their operations, staff relocation and overseas recruitment will continue to increase. However, there is growing evidence that some large companies are already introducing policies which reduce the mobility rate of their highly skilled staff, using strategies which include joint ventures and greater use of specialist business services (Ford, 1992; Keeble, Bryson and Wood, 1991; Salt, 1992). In the long term the volume of movement will stabilise, with a geographical pattern etched out in detail by technological change and business developments.

4. *Trends in foreign worker immigration in the UK*

The overall picture of trends in foreign employment in the UK is not easy to draw because of differences in the data sources available (Bulusu, 1991; Salt, Singleton and Hogarth, 1993). The inflow of foreign workers in 1992 varied, by source, from around 30,000 (work permit isues) to 108,000 (social security records), depending upon whether sources include the Irish and other EU nationals (Salt, 1994).

Figure 1 – *Standardized unemployment rate against absolute nos. of work permit issued*



Over the last two decades the trend in work permit issues has fluctuated, numbers halving during the 1970s, then rising again in the 1980s. The trend has been inversely correlated with the rate of unemployment (Figure 1). In the 1990s it appears to have steadied at around 30,000 issues a year. From the late 1970s there have been approximately equal numbers of long and short-term permits, despite fluctuations, with a fairly stable trend in issues under the Training and Work Experience Scheme (TWES), at around 3-5,000 per year. From 1986 to 1990 there was a strong rise in long-term work permit issues, as the UK economic recovery sucked in skills (Table 1).

All sources providing data on foreign worker characteristics indicate that professional, managerial and technical (PMT) workers are a major category. In recent years the International Passenger Survey, a sample survey carried out at ports and airports (but excluding those coming from Ireland), has suggested that around 60 per cent of economically active migrants entering the UK (a migrant is someone who has resided outside the country for more than a year, and is entering the UK with the intention of staying for more than a year) were PMT workers. The Labour Force Survey shows that among the total stock of workers, foreign nationals are more likely to be PMT workers than the indigenous population (27 per cent compared with 23 per cent in 1992/3). This is particularly the case for non-EU nationals, especially men.

The free movement provisions of the Treaty of Rome mean that the UK government is unable to select or control immigration by EEA workers. For non-EU nationals the government plays an active role, through its operation of the work permit system. The working of that system forms the basis of most of the rest of the paper.

Table 1 – *Work permit, first permissions and TWES issues, 1969-93*

Date	Long-term	Annual % change	Short-term	Annual % change	Trainee	Annual % change	Total	Annual % change
1969	67093(a)		(a)		8312		75405	
1970	66470(a)		(a)		7549	-9.2	74019	-1.8
1971	56031(a)		(a)		6399	-15.2	62430	-15.7
1972	46987(a)		(a)		5712	-10.7	52699	-15.6
1973	20716		12123		3697	-35.3	36536	-30.7
1974	20695	-0.1	12350	1.9	2903	-21.5	35948	-1
1975	18664	-9.8	11414	-7.6	3136	8	33214	-7.6
1976	11925	-36.1	8545	-25.1	2651	-15.5	25271(b)	-23.9
1977	10613	-11.0	7801	-8.7	3164	19.4	21578	-14.6
1978	9686	-8.7	9463	21.3	3662	15.7	22811	5.7
1979	8344	-13.9	9649	2	4010	9.5	22003	-3.5
1980	6423	-33.7	8238	-14.6	4152	3.5	18813	-14.5
1981	5906	-8	6866	-16.6	3088	-25.6	15860	-15.7
1982	5672	-4	7225	5.2	2557	-17.2	15454	-2.6
1983	6438	13.5	7108	-1.6	2361	-7.7	15907	2.9
1984	6801	6	6244	-12.2	2646	12	15691	-1.4
1985	7067	4	6571	15.1	2937	11	16575	6.6
1986	7915	12	7947	20.9	2826	-3.8	18688	12.7
1987	8063	1.9	9385	18.1	2900	-2.5	20348	8.9
1988	10391	28.9	11793	25.7	3790	30.7	25974	27.6
1989	13268	27.7	12234	3.7	4228	11.6	29730	14.5
1990	16055	21	13760	12.5	4812	13.8	34627	16.5
1991	12800	-20.3	12615	-8.3	3513	-27	28978	-16.3
1992	12681	-0.9	13963	10.7	3407	-3	30051	3.7
1993	12523	-1.2	13339	-4.5	3467	1.8	29329	-2.4

Source: Department of Employment, 1981 and unpublished.

(a) Long-term + Short-term.
(b) Includes 2150 issued unanalysed owing to industrial action.

5. *The work permit system in the UK*

5.1 *The operation of the work permit system*

The employment of people who are subject to immigration control is regulated by the granting of work permits from the Department of Employment's Overseas Labour Section (OLS). Under the 1971 Immigration Act a work permit is granted to a specific employer for a named person for a specific job. The history of the work permit system, and its operation prior to 1989, is discussed in Salt and Kitching (1990).

All foreign nationals who are not EEA citizens, and who wish to work in the UK, must obtain a work permit. The permit is in essence an "entry ticket", to be shown to an immigration officer by a worker coming from abroad to prove that s/he is eligible to take up employment in the U.K. Some people do take up work illegally, without a permit. Their number is not known, but they are likely to be concentrated in labour intensive and low-paid occupations such as catering and cleaning. In addition to the main scheme, a Training and Work Experience Scheme (TWES), principally for young Commonwealth workers, also exists. Its primary aim is to help developing countries by allowing entry for training, though it is increasingly used by large companies for career development purposes.

Not requiring Department of Employment (DE) approval are certain permit-free categories (e.g. clergy); working holidaymakers, normally young Commonwealth citizens between 17 and 27; and dependants of work permit holders. These miscellaneous groups may, in fact, be quite significant in the short-term labour market.

Work permits for full employment are available only for overseas workers holding recognized professional qualifications or having a high degree of skill or experience, and the ability to speak English adequately. Until October 1991 permits were normally only issued for workers aged between 23 and 54. The job should not offer wages or conditions less favourable than those generally offered to British workers doing similar work. A permit application should normally be considered only if, in the opinion of the Department of Employment, there is no suitable resident labour available; and the Department of Employment needs to be satisfied that the employer has made reasonable attempts to recruit a resident or EU worker before looking overseas. It is nonetheless possible for an application not meeting all the normal criteria to be approved, exceptionally, if in the opinion of the Secretary of State this is in the national interest.

An exception to the strict application of the rules is the Dependent Territories Quota. Each year about 200 permits are given to people from the dependent territories, often these are applications that would normally be refused. Examples are cooks from Hong Kong coming to work in take-away and "ethnic" restaurants.

Permits are issued for varying periods, but effectively they are either short-term (under one year) or long-term (one year or more).

5.2 *Recent changes in the work permit system*

In October, 1991, important modifications were made to the work permit system, most notably the introduction of a two-tier system for processing applications. Those clearly meriting approval, and satisfying existing occupational skills criteria, are dealt with under a simplified procedure in Tier 1. The occupations involved are: senior transfers within international companies; board level posts with a salary of more than £50,000 p.a.; posts involving inward investment; posts where the occupation is recognised as being in short supply. Other applications, in Tier 2, continue to need fuller documentation. A new category of 'keyworker' was introduced to allow for high level, specialised language and

cultural skills. Qualifications and qualifying experience gained in the UK will in future be recognized under the rules of the work permit scheme. The requirement for the overseas national to be aged 23-54 no longer applies. Other changes are related to applications from Commonwealth workers, duration of employment and to the special categories of entertainers, sportspeople and models. The scheme was simplified administratively too, with a single point of contact in the OLS, whether the overseas national is abroad or already in the UK.

The overall thrust of the changes was thus to simplify entry for highly skilled and senior people, particularly those who are corporate transferees. On the evidence of the two years of operation under the new system, little change seems to have occurred in the characteristics of those to whom permits have been granted.

6. *Characteristics of non-EU foreign workers*

The aim of this section is to demonstrate the selective nature of the work permit system, which continues to operate with a remarkable distributional stability, despite fluctuations in numbers of issues. It focuses on the characteristics of foreign (non-EU) workers for whom work permits were granted 1984-93. In the first part of the section the data are 100 per cent of all issues; the second part of the section is based on a small sample, extracted from the full records, for 1992. The data for both industry and occupation include TWES issues.

6.1 *Industrial group*

The distribution pattern of work permit issues by industry continues to be remarkably stable (Table 2). Short-term issues are dominated by the Miscellaneous Services category (mainly entertainers and sportspeople), with consistently around four-fifths of issues. With the possible exception of Insurance, Banking and Finance (IBF) in 1991-92, the rest of the economy seems to have little need for short-term non-EU foreign nationals.

Of more economic importance is the industrial distribution of long-term permits. Here the pattern is dominated by three service industries: IBF, Professional Services, and Miscellaneous Services, which in 1993 accounted for 72 per cent of all work permits issued. In the rest of the economy, only metal industries (including engineering), made any substantial use of overseas non-EU nationals. Among the "big three" the main trend was a steady increase in the Miscellaneous Services category; IBF peaked in 1986-87, probably in anticipation of financial deregulation in the City of London, while Professional Services remained fairly stable until declining sharply in 1993 to lowest level for a decade. Among the other industries, both Mining/Oil and Distribution have decreased their intake of foreign workers. Miscellaneous Services has made the greatest gains over the longer term, and particularly since 1991.

Table 2 – *Work permits and first permissions by industry 1984-93* (Number and %)

	1984		1988		1992		1993	
	N.	%	N.	%	N.	%	N.	%
SHORT TERM (including TWES)								
Mining, Oil	163	2.30	128	0.97	88	0.56	86	0.56
Coal, Chemicals	53	0.75	80	0.60	115	0.74	143	0.94
Metal Industries	232	3.27	297	2.24	383	2.45	366	2.40
Other Manufg.	43	0.61	55	0.41	163	1.04	204	1.34
Transp. & Communics.	100	1.41	124	0.94	113	0.72	130	0.85
Distribution	48	0.68	66	0.50	43	0.28	68	0.45
Ins., Bankg., Finance	256	3.61	507	3.83	821	5.26	642	4.21
Prof. Services	305	4.30	656	4.95	680	4.35	715	4.69
Misc. Services	5765	81.31	11177	84.32	12941	82.85	12518	82.10
Others	125	1.76	164	1.24	273	1.75	376	2.46
TOTAL	7090	100	13254	100	15620	100	15248	100
LONG TERM (including TWES)								
Mining, Oil	661	8.16	547	4.30	507	3.51	519	3.69
Coal, Chemicals	176	2.17	319	2.51	424	2.94	381	2.71
Metal Industries	1128	13.93	1769	13.91	1775	12.31	1562	11.09
Other Manufg.	212	2.62	453	3.56	468	3.24	428	3.04
Transp. & Communics.	272	3.36	454	3.57	347	2.40	311	2.21
Distribution	526	6.50	410	3.22	316	2.19	338	2.40
Ins., Bankg., Finance	1679	20.74	3037	23.88	3210	22.24	3103	22.04
Prof. Services	2133	26.34	3207	25.21	3732	25.86	3156	22.41
Misc. Services	1190	14.70	2232	17.55	3349	23.21	3905	27.73
Others	120	1.48	291	2.29	303	2.10	377	2.68
TOTAL	8097	100	12719	100	14431	100	14080	100

Source: Department of Employment (unpublished)

6.2 *Occupational group*

The occupational distribution of work permit issues has also remained remarkably stable over the period 1984-93 (Table 3). Furthermore, it shows very clearly the importance attached to high level skills in work permit issue. Around four-fifths of short-term permits are received by literary, artistic and sportspeople, highly skilled in their own right. Most of the rest go to professional and manage-

rial workers, with a clear rising trend in numbers and proportion over recent years, especially among those providing professional and managerial support. This rise may be due to a tendency for companies to bring in specialist expertise for short periods, perhaps on corporate transfers. It may also reflect career development processes in both internal and external labour markets, with entry to the UK associated with short career training periods.

It is clear from Table 3 that the work permit system has operated to bring in, on a long-term basis, mainly the highly skilled. The main origin countries (see below) are other advanced industrial countries, with which the UK has developed a network of "brain exchanges". Long-term work permits go mainly to professional and managerial people, around 87 per cent in 1993, well up on the previous year and the highest proportion for the period listed. Trends among the constituent categories of this group show some variations. Professional and managerial support (middle level management) is the most important category, accounting for about a quarter of the total, but seems to be showing a steady proportionate decline in recent years. The proportion of professional and managerial workers in education, health and welfare has risen markedly in the 1990s and especially in 1993. Science and technology professionals and managers have also increased in numbers recently, as also have those of general (senior) management.

Among the non-PMT group long-term work permit issues to those in Catering and Personal Services, and Others, fell sharply in 1993.

Interpretation of these trends is not easy. The changes in 1993 may be a consequence of the introduction in October 1991 of changes to the work permit system. One objective of the changes was to make it easier for companies to bring in highly skilled staff, and it is likely that there would be some delay before employers and the Department were completely *au fait* with the new procedures. The trend may also reflect recruitment policies of companies, and new ways of acquiring high level skills and expertise.

6.3 *Country of origin*

Two countries dominate the list of long-term work permit issues, as they have for many years: the US has consistently accounted for over a quarter of all work permit issues, with Japan in second place (Table 4). During the period 1984-93 workers from these two received 40-50 per cent of all issues. In 1993 their proportion was 45 per cent. For most countries, the number of long-term work permit issues is a few hundred.

As with the industrial and occupational pattern, the main feature of the distribution by origin country is its stability, with a broadly similar relationship being maintained between the countries and groups of countries listed. It is clear that the UK work permit system serves to select labour mainly from other industrial countries. Analysis of the occupations of those people from Third World countries issued with work permits shows that the profiles are very similar to those from the rich world: most of them are professional and managerial workers.

Table 3 – *Work permits and first permissions by occupation 1984-93* (Number and %)

	1984		1988		1992		1993	
	N.	%	N.	%	N.	%	N.	%
SHORT TERM (including TWES)								
General Management	*35*	*0.49*	*54*	*0.41*	*113*	*0.72*	*108*	*0.71*
Prof/Manag Support	*503*	*7.10*	*847*	*6.39*	*1598*	*10.23*	*2065*	*13.54*
Prof/Manag in Educ. Health & Welfare	*81*	*1.14*	*234*	*1.77*	*374*	*2.39*	*545*	*3.58*
Prof/Manag in Science & Tech.	*438*	*6.18*	*410*	*3.09*	*427*	*2.74*	*490*	*3.21*
Other Managerial	*125*	*1.76*	*133*	*1.00*	*43*	*0.28*	*29*	*0.19*
All Prof/Managerial	1182	16.67	1678	12.66	2555	16.36	3237	21.23
Literary, Art, Sport	5721	80.69	11177	84.33	12568	80.46	11828	77.57
Clerical & Related	7	0.10	57	0.43	10	0.06	3	0.02
Catering, Personal Services	29	0.41	285	2.15	315	2.02	62	0.41
Others	151	2.13	57	0.43	172	1.10	118	0.77
TOTAL	7090	100	13254	100	15620	100	15248	100
LONG TERM (including TWES)								
General Management	*1286*	*15.88*	*2265*	*17.81*	*1848*	*12.81*	*2252*	*15.99*
Prof/Manag Support	*2634*	*32.53*	*4656*	*36.61*	*4271*	*29.60*	*3546*	*25.19*
Prof/Manag in Educ. Health & Welfare	*947*	*11.70*	*1348*	*10.60*	*2916*	*20.21*	*3448*	*24.49*
Prof/Manag in Science & Tech	*1690*	*20.87*	*2291*	*18.01*	*2630*	*18.22*	*2924*	*20.77*
Other Managerial	*300*	*3.71*	*229*	*1.80*	*124*	*0.86*	*57*	*0.40*
All Prof/Managerial	6857	64.69	10789	84.83	11789	81.69	12227	86.84
Literary, Art, Sport	774	9.56	1175	9.24	1440	9.98	1332	9.46
Clerical & Related	22	0.27	84	0.66	14	0.10	4	0.03
Catering, Personal Services	276	3.41	517	4.06	746	5.17	255	1.81
Others	168	2.07	154	1.21	442	3.06	262	1.86
TOTAL	8097	100	12719	100	14431	100	14080	100

Source: Department of Employment (unpublished)

Table 4 – *United Kingdom: Long-term work permit issues 1990-1993*

Long-term (including trainees)	1990	1991	1992	1993
United States	5.0	4.0	4.1	4.4
Japan	2.6	2.4	2.1	2.0
Australia and New Zealand	1.4	1.1	1.1	1.0
India	0.8	0.8	0.9	0.9
China	0.6	0.5	0.4	0.5
Canada	0.5	0.4	0.5	0.5
Malaysia	0.7	0.4	0.3	0.2
Hong Kong	0.8	0.4	0.2	0.2
South African countries	0.4	0.3	0.4	0.4
Other countries	6.2	5.1	4.4	4.0
Total Long-term permits	19.0	15.4	14.4	14.1

Source: Department of Employment (unpublished)

6.4 *Inter-company transfers (ICTs)*

This is the term used within the DE Overseas Labour Section to describe those who are being transferred to the UK within the international internal labour markets of their employers. Strictly speaking, a more accurate definition would be "intra-company transfers". Comparatively few ICT applications have traditionally been refused. Most come from large, reputable organizations, easily able to make a case for bringing in an individual executive on the grounds of product development and corporate career development policy. The modifications to the work permit system introduced in October 1991 were designed to make it even easier for ICTs to be issued with permits.

During the 1980s and 1990s the trend in numbers of issues of ICTs has been upward, though in common with long-term applications in total it slipped back in 1992, to 7,640 under the main scheme, with a further 697 under TWES, giving a total of 8,340. In 1993 the upward progression continued, to 8,378 in total (7,843 in the main scheme, 532 in TWES). ICTs in 1993 represented around 47 per cent of all main scheme long-term permit issues, up by 2 per cent on 1992. Their proportion of the total fell steadily during the 1980s from around 60 per cent in the middle of the decade, but in the last few years has increased again, though it is unclear if this represents a real fall or results from a technicality in the way the data are recorded. In 1993 ICTs were about a fifth of TWES issues.

6.5 *Sample characteristics*

In order to obtain further details on the characteristics of those issued with long-term work permits, a systematic sample consisting of every 50th long-term

approval (work permits, first permissions and extensions) was extracted from the record files for the period January-August 1992. This provided 150 cases. A smaller sample of 42 cases of TWES permit issues was also taken, the results of this group being only briefly recorded here. The period of the sample thus coincides with the early phase of the new work permit arrangements. To a considerable extent the sample study replicates a similar one carried out on 1988 data (Salt and Kitching, 1990).

6.5.1 *Representativeness of the sample*

The sample was broadly representative of the total picture for 1992, though there were some differences in detail. Both Americans and Japanese were over-represented (respectively 37 and 23 per cent in the sample, 29 and 14 in the total). The industrial distribution was similar in the sample and the total (66 and 71 per cent respectively in the three main sub-groups (IBF, Professional Services and Miscellaneous Services), though there were variations between some industrial categories (e.g. 14 per cent in IBF in the sample and 22 per cent in the total. Professional and managerial workers were over-represented in the sample (95 compared with 82 per cent). A further discrepancy was in the proportion of ICTs, 65 per cent in the sample, but only around 45 per cent in the total (though the latter figure may be an underestimate as indicated above). In sum, the sample would seem to overrepresent nationals of the US and Japan, professional and managerial groups, and corporate transferees. Although this should be borne in mind in what follows, it does not affect the validity of the findings.

6.5.2 *Sex and age*

Most work permits go to men: 73.3 per cent of the total. There are major distributional differences between the sexes. Japanese were much less well represented among women (12.5 per cent of women, 26.4 per cent of men); in contrast, higher proportions of Americans and Others were women. Women were less well rewarded. Nearly half (47.5 per cent) of them earned under £15,000 per year, compared with only 4.5 per cent of men. Conversely, 46.4 per cent of men, but only 12.5 per cent of women earned over £40,000 per year. These differences in salary reflect the occupational distribution. Forty per cent of women, but only 7 per cent of men were in education, health and welfare occupations. There were also major differences in the proportions who were ICTs: only 30 per cent of women were corporate transferees, compared with 77 per cent of men.

Work permits would seem to go especially to those in mid-career. This is consistent with the expansionary phase of the individual's career, when experience gained during the training period is being applied on the wider international stage. There would seem to be some difference between national groups, though the small sample size makes generalisations difficult. For the most part Americans are older, Japanese concentrated in their 30s, while a higher proportion of those from other countries are under 30.

6.5.3 *Nationality and salary*

The average salary of those granted work permits was £35,270 (compared with £28,363 in the 1988 sample). The salaries of Japanese and Americans were considerably higher than those of other nationalities (£23,352), getting on for double. In comparison with the 1988 sample, salaries of Japanese have increased most markedly (up from £30,975), those of Americans less so (up from £39,868). What is particularly notable is that the Japanese have taken over from the Americans as the salary leaders.

6.5.4 *Corporate transferees*

There were major differences between those granted entry as ICTs and those recruited in the external labour market, echoing the earlier finding of Salt and Kitching (1990).

Table 5 – *Work permit sample 1992. Age breakdown*

Age	ICT		Non-ICT		Total	
	Nos.	%	Nos.	%	Nos.	%
< 30	29	29.9	17	32.1	46	30.7
30-39	27	27.8	26	49.1	53	35.3
40-49	30	30.9	5	9.4	35	23.3
> 50	11	11.4	5	9.4	16	10.7
Total	97	100	53	100	150	100

Source: Department of Employment (unpublished)

Table 6 – *Work permit sample 1992. Salary breakdown including ict status*

Salary (£)	ICT		Non-ICT		Total	
	Nos.	%	Nos.	%	Nos.	%
< 15000	4	4.1	20	37.7	24	16.0
15-29999	25	25.8	22	41.5	47	31.3
30-39999	21	21.7	3	5.7	24	16.0
40-49999	17	17.5	3	5.7	20	13.3
> 50000	30	30.9	5	9.4	35	23.4
Total	97	100	53	100	150	100

Source: Department of Employment (unpublished)

The importance of the work permit system in allowing companies to relocate senior executives is demonstrated in Table 5. ICTs were older than non-ICTs: 42 per cent of ICTs were over 40, compared with only 19 per cent among non-ICTs. Thus the corporate transfer system is used to move older and more valued (see below) staff into the UK. In contrast those who are not ICTs, and who are recruited directly from abroad, are at a stage in their careers when they and their new employers are able to capitalise on investment in training and early career experience in other countries.

Corporate transferees received much higher salaries than others (Table 6). Only 30 per cent of ICTs were paid under £30,000, compared with 78 per cent of non-ICTs; in contrast, 48 per cent of ICTs were paid over £40,000, but only 15 per cent of non-ICTs.

There are also occupational and industrial differences between ICTs and non-ICTs (Tables 7-8). The sample suggests that ICTs were much less likely to be found in education, health and welfare occupations, but much more prevalent in management and administration. Professional and scientific services (including education and medicine) accounted for over half non-ICTs but only three per cent of ICTs.

Table 7 – *Work permit sample 1992. Occupational sub-group as against ICT status*

Sub-grp.	ICT		Non-ICT		Total	
	Nos.	%	Nos.	%	Nos.	%
1	28	28.8	7	13.2	35	23.3
2	42	43.3	9	17.0	51	34.0
3	0	0.0	24	45.2	24	16.0
4	23	23.7	8	15.1	31	20.7
5	2	2.1	0	0.0	2	1.3
6	0	0.0	1	1.9	1	0.7
7	0	0.0	0	0.0	0	0.0
8	0	0.0	2	3.8	2	1.3
9	2	2.1	2	3.8	4	2.7
Total	97	100	53	100	150	100

KEY
1 Managerial occupations (general managers)
2 Professional & related occupations supporting management & admin.
3 Professional & related occupations in education, health & welfare
4 Professional & related occupations in science, engineering, technology
5 Managerial occupations (excluding general managers)
6 Literary, artistic & sport
7 Clerical & related
8 Catering cleaning, hairdressing & other personal services
9 All other

Source: Department of Employment (unpublished)

Table 8 – *Work permit sample 1992. Industrial sub-group as against ICT status*

Sub-grp.	ICT		Non-ICT		Total	
	Nos.	%	Nos.	%	Nos.	%
1	8	8.2	2	3.8	10	6.7
2	6	6.2	1	1.9	7	4.6
3	9	9.3	1	1.9	10	6.7
4	15	15.4	4	7.5	19	12.7
5	2	2.1	1	1.9	3	2.0
6	0	0.0	0	0.0	0	0.0
7	18	18.6	3	5.7	21	14.0
8	3	3.1	28	52.8	31	20.7
9	34	35.0	13	24.5	47	31.3
10	2	2.1	0	0.0	2	1.3
Total	97	100	53	100	150	100

KEY
1 Mining & Oil
2 Coal & Chemical products
3 Metal Engineering & Vehicles
4 Other Manufacturing Industries
5 Transport & Communications
6 Distribution
7 Insurance, Banking & Finance
8 Educational, Medical & other Professional & Scientifis services
9 Entertainment, Medical & Catering, & other miscellaneous services
10 All others

Source: Department of Employment (unpublished)

Nationality also influences the ICT - Non-ICT breakdown. Americans and, especially, Japanese are more likely to be corporate transferees than other nationalities.

Finally, corporate transfer is related to the regional distribution within the UK of work permit issues. Greater London is clearly the main focus of attraction, accounting for 46.7 per cent of issues in total, but for more ICTs (53.6 per cent) than non-ICTs (34 per cent). Greater London and the Rest of South-East England are the destination for over four fifths of all work permits, especially for ICTs. Those who are not ICTs are twice as likely as those who are to be located in the Rest of the UK.

6.5.5 *TWES sample*

This was a sample of 42 individuals granted work permits under the Training and Work Experience Scheme. The nature of the scheme ensures that those granted permits will be younger, in the early career phase, and that fewer will

be ICTs. Because the scheme is aimed at Commonwealth workers, it attracts few Americans and Japanese.

About four-fifths of the sample were aged under 30. Only 28.6 per cent were ICTs. Over three-quarters were juniors in management support and administration (compared with about a third in the main scheme). Salaries were relatively low, around 60 per cent being paid under £15,000 per annum, only 2 per cent more than £30,000. Average salary was £9,160, though the small number of Americans and Japanese in the sample earned between two and three times that figure. TWES workers were even more likely than their more senior counterparts to work in Greater London (64.3 per cent).

7. *The overall importance of corporate international transfers*

Thus far this paper has focused on the labour selection process operating through the work permit system. It has identified corporate relocation as a major element in the international recruitment of skills to the UK labour market from non-E sources. An alternative source of data (again unpublished) on corporate relocation internationally, which includes EU nationals, is the Labour Force Survey. The LFS records those resident overseas a year ago, who were living and working for the same employer in the UK a year later.

During the period 1985-93 about 218,000 were working in the UK at the time of the survey, and living and working for the same employer outside the UK a year previously. Of these, about 103,000 were foreign nationals, including 82,000 from non-EU sources. This last figure compares with about 64,000 ICT work permit issues over the same period. Overall, the LFS data indicate that about 39 per cent of all foreign national workers, working outside the country the year before the survey, were corporate transferees. Around a third of those originating in the EU (excluding Ireland) and nearly half those from non-EU countries were in this category. The importance of corporate relocation in attracting skills to the UK cannot be denied.

8. *Conclusion*

The analysis has indicated that long-term work permits are issued mainly to professional and managerial workers, engaged in service employment (especially business services), coming from other industrial countries. Many, perhaps a majority, are corporate transferees working for large transnational corporations (TNCs). Short-term work permits are mainly for entertainers and sportspeople, again people with high levels of professional expertise. What is particularly revealing about the analysis of industry, occupation and national origin is the stability of the pattern. Despite fluctuating (and generally rising in the 1980s) total numbers, the distributional pattern has changed little. It would appear that the UK has established an entry system for non-EU foreigners that admits the same broad profile of skills year after year.

The findings derived from the more detailed sample show a basically similar pattern to that recorded in the earlier study relating to 1988 (Salt and Kitching, 1990). They indicate a highly selective work permit system. Most permits are issued to men, whose incomes are substantially higher than those of women, and who are much more likely to be ICTs. A substantial proportion of those issued with work permits are in those phases of their careers, beyond the early training stage, when their productivity and "cutting edge" can be expected to be high. Many of them are corporate transferees, earning high salaries; this applies especially to Americans and Japanese. To a very considerable extent, the work permit system is used to staff London, and then the Rest of the South East. On this evidence its impact on the rest of the country is limited. The major exception to corporate dominance would seem to be in education, health and welfare services. This is consistent with the attraction of highly skilled foreigners into such non-TNC organizations as universities and local health authorities and hospitals.

Within the general pattern of international skill exchanges there is no doubt that corporate relocation is a major element in UK labour immigration and emigration. The numbers involved are considerable, as is the apparatus set up by companies to manage the movement. It seems highly likely that, in the UK and Europe as a whole, the international interchange of expertise will continue to grow. Large employing organisations will continue to develop both internal and external labour market policies in response to changing demand for international skills. The result is that state "gatekeepers" and employers will need to work together in a flexible way in order to ensure that inward or indigenous investment is not deterred by skilled labour shortages.

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Skilled migration to Canada and Quebec. Methodological problems and empirical results

The study of skilled international immigration faces many biases and methodological problems, at the micro-level as well as at the macro-level. The first objective of this paper is to briefly discuss some of these problems. In order to illustrate these methodological considerations, some Canadian data on skilled immigration will be used, and in this way we will try to reach a second objective, namely to provide a succinct analysis of skilled migration to Canada.[1]

1. *Methodological problems*

The first problem encountered in the study of skilled and highly skilled immigration is of course related to the definition of these various terms. Different criteria may be used for defining who is (highly) skilled: the highest level of schooling, the number of years of schooling, the type of occupation, the sector of activity, etc. These indicators are far from equivalent, and in no way lead to a precise cardinal measure of the level of skill; for instance, a large number of years of schooling does not necessarily imply a high level of skill (it could be the reverse...), and holding a university degree is not necessarily a guarantee of skill. Moreover, the content of these indicators may markedly differ over time and from one country to another. The source of the information may also affect the significance of these indicators: data obtained directly from the authority delivering the immigration visa may be more credible (because declarations related to schooling have usually to be supported by a diploma) than those obtained from a census or a survey (checking the answers given to questions related to schooling or occupation, has led to the conclusion that people tend to overestimate the level they reached). If one wants to further distinguish between those who are merely skilled and those who are "highly" skilled, then the risk of arbitrariness becomes even larger.

[1] This paper is based on research financed by the Social Sciences and Humanities Research Council of Canada.

Defining who is an immigrant is also far from obvious. In some countries (like Canada or the United States), being an immigrant implies that one has crossed the border with an immigrant visa obtained after having successfully passed through a long selection process in the country of origin. Such a definition is of course inappropriate in the case of many (European) countries, so that international comparisons regarding skilled immigration are highly disputable. Censuses usually cover only nationals and (legal) immigrants. Persons residing in the country with a temporary permit, a student visa, a special permit, etc., are in most cases not enumerated, but again this may differ from one country to another, and over time as well (for instance, the 1991 Canadian census covers for the first time these various types of temporary migration, so that comparisons with previous censuses become rather hazardous, particularly as far as skilled immigration is concerned).

This discussion on the definition of who is an immigrant leads to a second main methodological problem encountered in the study of skilled international migration, a problem often faced in demographic research, namely the one related to the necessary distinction to be made between period analysis and longitudinal analysis, between an event and the person subject to this event. In the English language, an immigrant designates as well the person who enters a country as the person who has entered the country, while in French one distinguishes between an "immigrant" and an "immigré" (an "immigrant" becomes an "immigré" once he has immigrated). Because of mortality but mainly because of migration, during a given time interval the number of events (immigrations in a country) is always larger than the number of immigrants surviving in the country at the end of the interval. This is particularly important as far as skilled migration is concerned, not because skilled migrants experience higher mortality rates (on the contrary), but because their migration propensity is markedly higher. Their "action space" is indeed much wider (for highly skilled people, it usually covers the whole world) and their capacity to overcome distance much higher than for most people.

There are two important methodological implications of this distinction between the event of immigration and the migrant. The first one is that in the study of skilled immigration we should apply one of the basic tools of demographic analysis, namely cohort analysis. Skilled immigrants enumerated at a census or member of a survey sample are the survivors in the country (or in the region, if we use regional data) of various cohorts who entered the country at different moments in time, and having therefore different durations of stay in the country. These immigrants surviving in the country represent a biased sample of the initial cohort, because by definition they were able to "find their place" (job, housing, social ties, etc.) in the host country. If we do exclude mortality (which plays a minor role in this case), those who are not in the cohort anymore have left the country, either to return to their country of origin, or to emigrate to a third country (or to another region of the country if we use regional data); in other words, their migration experience has not been successful. Those who survive in the country (and who are "seized" at a census or in a survey) either found their migration satisfying enough in order to remain in the country, or – if they were

not satisfied – were not able to migrate again (because conditions in their country of origin were not appropriate, or because their skill was not in demand in another country). These various reasons leading to the fact that census or survey data on skilled immigrants refer to a biased sample, have a different impact on the direction of the bias. In some cases the bias will be upward (for instance, if only the "best" remain), in other cases, the bias will be downward (for instance, if the "best" left, because they found a better job elsewhere). It is therefore difficult to estimate the global direction of the bias. Much depends on the situation in the host country and in the country of origin.

Another important implication we may derive from the distinction between immigration and immigrant, refers to the significance to be given to the personal characteristics of the migrants. All personal variables of the skilled migrant (highest level of schooling, number of years of schooling, type of occupation, age, etc.) obtained from a census or a survey refer, by definition, to the moment the census has been taken or the survey conducted, and not to the moment the immigrant entered the country. This represents a particularly important problem in our case, because all indicators of the level of skill of the migrants are thus measured *post facto*, so that we do not know whether a given level of skill was the "cause" of immigration (in this case, immigrants entered the country because their level and type of skill was in demand in the host country), or the "consequence" of immigration (in this case, immigrants entered the country in order to acquire a higher level of skill, and later on settled in the same country; many highly skilled "immigrants" actually entered the country at a younger age with a student visa, with a much lower level of skill). One should thus be very careful when using census or survey data in an analysis of the causes and consequences of international migration, particularly in the case of skilled migration.

For some personal characteristics of the migrants, this problem does not exist because the characteristic is a constant (for instance, sex and place of birth); in other cases (age, for instance), the problem may be solved if the characteristic varies constantly over time and if the period of immigration is known simultaneously. In most cases, the problem may be minimized if one limits the study to the immigrants who arrived in the country during a short period (five years seems a maximum) before the census or the survey; if the average duration of stay in the country is only 2 years, most immigrants will not have had time enough to significantly increase their level of skill. Actually, this whole discussion on the significance of the personal characteristics of migrants refers to the basic question whether we are using stock data or flow data. In most countries, only stock data are available (through a census or a survey). In order to obtain flow data, we need a population register (but even in this case, we are still faced with the not negligible problem of underregistration of international immigrants), or a register specifically devoted to the registration of international immigrants (like the one in use in Canada and more extensively in Quebec, where the event of immigration is registered at the moment of entry, with many personal charcteristics of the immigrant at the moment of immigration; it is therefore not the migrant himself who registers his entry, as is the case with most other registers).

A final methodological consideration refers to the use of regional data in analyzing skilled migration. As mentioned before, introducing the regional dimension markedly complicates the study of skilled international immigration, because we have then to take into account the possibility of interregional migration, so that the percentage of immigrants surviving in a region among those who originally immigrated into the region will be much lower than it would be if only mortality and international emigration were to affect the initial cohort (with all the biases this implies). By comparing the sum of the yearly number of immigrants into the country (or into a region of the country) over a given period of time (information which may be obtained from a register) to the number of immigrants surviving and enumerated at the end of the period in the country (or the region), one may estimate the capacity of the country (or the region) to retain these immigrants. Even if one considers only the five-year period of time preceding the census (thus eliminating most of the impact of mortality, which is minor anyway), one obtains a loss (essentially through international emigration) of about 10% in the case of Canada as a whole, and about 30% in the case of Quebec (this implies that a significant number of international immigrants arriving in Quebec have settled in another province after a few years, having used Quebec as a transit station).

Yet, despite the complexity we are adding to the analysis by introducing the regional dimension, such a step appears to be much needed, particularly in the case of skilled international immigration. In most countries, immigrants tend to concentrate in the largest metropolitan areas (for instance in Canada, over the last 10 years the 3 metropolitan areas of Toronto, Montreal and Vancouver received 60% of all international immigrants, and 7 metropolitan areas received the three quarters of all immigrants). This propensity to concentrate in a few areas is most probably even higher among skilled immigrants, because jobs requiring a high level of skill are concentrated in few metropolitan areas. This spatial concentration implies that when analyzing the demographic and socio-economic consequences of (skilled) international immigration, one should also take the spatial dimension into account. The vast majority of studies devoted to the consequences of immigration try, however, to quantify the impact of immigration at the national level, and conclude that this impact is marginal. Such a conclusion is far from surprising, precisely because the level of analysis has been too large. It is clear indeed that even if we yearly add 1% to a given stock (a rate of immigration which is particularly high), and even if this addition presents some characteristics (age, level of skill, etc.) which are significantly different from the mean value of the same characteristics in the receiving population, this inflow will only marginally affect the average situation of the stock. In order to be able to measure, in a significant way, the impact of a phenomenon, one has to measure this impact at the spatial level wherein this phenomenon does appear, not at a much wider scale at which this impact becomes diluted.

2. *Empirical results*

With these methodological considerations in mind, we will now briefly analyze the importance of skilled international immigration in Canada. Given the lack of space, the following discussion should actually be viewed more as a way of illustrating some of the problems discussed in the previous section than as an in-depth study of the Canadian case.

Among the various possible measures of the level of skill, we used the holding of a university degree as criterion, not because it is necessarily the best, but because it is the one for which we obtained the most detailed data.

As shown in Table 1, according to the 1986, census 9.0% of the non-immigrant population of Canada aged 15 years and over (we exclude the population younger than 15 years, in order to eliminate the impact of the age structure) hold a university degree, but this percentage reaches 12.2% among the immigrant population (which accounts for almost 19% of the total Canadian population). Regional disparities seem to be quite significant, as shown by comparing Quebec with the rest of Canada: in the former case, the non-immigrant population has only 8.0% of university degree holders, a percentage which reaches 14.4% for the immigrant population, while, in the rest of Canada, the corresponding figures are 9.4% and 11.9%. Even if immigrants represent a markedly lower percentage of the Quebec population (less than 10%, compared to more than 22% for the rest of the country), this province seems thus able to attract relatively more "skilled" immigrants.

Table 1 – *Percentage of international immigrants holding a university degree among total population aged 15 years and over, 1986*

	Canada	Quebec	Rest of Canada
Population aged 15+ ('000)	19,634	5,115	14,519
% Univ. holders	9.6	8.6	9.9
Non-Immigrants ('000)	15,915	4,619	11,296
% Non-Imm. in total population 15+	81.1	90.3	77.3
% Univ. among Non-Imm.	9.0	8.0	9.4
Immigrants ('000)	3,719	496	3,223
% Imm. in total population 15+	18.9	9.7	22.2
% Univ. among Imm. arrived			
– before 1946	4.2	5.8	4.0
– 1946-66	10.6	12.6	10.3
– 1967-77	15.9	18.7	15.4
– 1978-82	14.5	14.4	14.5
– 1983-86	15.3	16.5	15.1
– Total	12.2	14.4	11.9

Source: Statistics Canada, 1986 census, catalogue 93-155.

As long as we consider the immigrant population as a whole, we, however, are not able to answer the basic question whether these immigrants arrived with a university degree, or obtained this degree after their arrival. In order to resolve this problem, we desegregated the immigrant population according to period of immigration, presuming that the duration of stay of the most recent immigrants (in our case, those who arrived in 1983-86 (calendar years, except for 1986, the census having taken place on the 1st of June) was too short (20 months on the average) for obtaining a university degree in the host country. It then appears that recent immigrants have indeed a much higher percentage of "skilled" people than non-immigrants, with a relatively small regional difference (16.5% in the case of Quebec immigrants – more than double the corresponding figure for non-immigrants, and 15.1% for immigrants to the rest of Canada). The period-of-immigration specific figures also show that, on the whole, recent immigrants have a markedly higher percentage of university degree holders among them than those who arrived in earlier times: the percentage of university degree holders among immigrants reaches about 15% for those who arrived after 1966, but only 4% among those who immigrated before 1946. From this, it seems reasonable to conclude that immigrants are increasingly "skilled", with a level of skill significantly above the one shown by the non-immigrant population (particularly in the case of Quebec).

In the above table, "immigrants" are defined in a restrictive way: they refer to those people who during a given period entered the country for the first time with an immigrant visa. It is obvious however that nationals (and immigrants of previous periods) who at the beginning of the period reside outside the country may also "immigrate". In order to seize the totality of the immigration flow, a comparison between the place of residence (in Canada or outside Canada) at two subsequent moments in time seems in order. Special tabulations of the 1981 and 1986 censuses allowed us in this way to look at the age and sex structure of all skilled immigrants (nationals, previous immigrants and new immigrants). In order to obtain cohorts of immigrants who are less affected by mortality and migration, we considered only those surviving at the census among all immigrants who entered the country in the five years preceding the census; that is, among the immigrants enumerated (and thus surviving in the country) at the 1981 census we took only those who entered the country in 1976-81 (census years, from June to May), and among the immigrants enumerated at the 1986 census, we took only those who arrived in 1981-86; columns (1) and (2) of Table 2 refer to these two cohorts. The main conclusion which may be drawn from the figures produced in this table is that the vast majority (about 70%) of skilled immigrants are young adults (aged between 25 and 44 years), and that skilled immigration is male dominated, with 5 males for 4 females (except among skilled immigrants younger than 25 years who settled out of Quebec). Such a conclusion is of course far from surprising, considering the well known age selectivity of migration and the male-female disparity still prevailing in many countries as far as university schooling is concerned.

Table 2 – *Age-sex structure of international immigrants holding a university degree, by period of immigration: (1) 1976-81, and (2) 1981-86*

	Canada		Quebec		Rest of Canada	
	(1)	(2)	(1)	(2)	(1)	(2)
Age						
15-24	16	15	14	13	16	18
25-44	69	69	71	70	69	68
45-59	10	11	10	12	10	9
60+	5	5	5	5	5	5
Total 15+	100	100	100	100	100	100
Sex Ratio (M/F)						
15-24	95	92	113	107	92	90
25-44	127	121	138	128	125	119
45-59	166	168	167	157	166	170
60+	150	147	128	149	155	173
Total 15+	125	121	136	129	124	121

Source: Statistics Canada, special tabulations of the 1981 and 1986 censuses.

Table 3 – *Percentage of international immigrants in population holding a university degree, by age and period of immigration: (1) 1976-81, and (2) 1981-86*

Age	Canada		Quebec		Rest of Canada	
	(1)	(2)	(1)	(2)	(1)	(2)
15-24	3.7	3.0	2.4	2.0	4.0	3.2
25-44	5.2	4.0	3.7	2.9	5.7	4.4
45-59	2.8	2.4	1.9	1.8	3.0	2.6
60+	2.5	2.0	1.9	1.4	2.6	2.2
Total 15+	4.3	3.4	3.0	2.4	4.7	3.7

Source: Statistics Canada, special tabulations of the 1981 and 1986 censuses.

Until now, we have mainly considered the stock of "skilled" immigrants (possibly desegregated by period of immigration), without relating these immigrants to the total stock of "skilled" population. The ratio of these two stocks may be considered as an approximation of the rate of immigration, at least if we consider only immigrants who arrived over a given (recent) period of time. More precisely, we may look for the percentage skilled immigrants of the 1976-81 period represent in the total skilled population of 1981, and similarly for 1986

with immigrants who entered the country in 1981-86. Another way to look to this ratio is to ask to what extent recent (i.e. those who arrived during the last five years) skilled immigrants contribute to the total stock of skilled population residing in the country. Table 3 provides these percentages, for each of the age groups used in our analysis. From the figures presented in this table, it seems clear that skilled immigration (nationals and non-nationals) may significantly affect the stock of skilled labour supply.

For instance, skilled immigrants who entered Canada in 1976-81, thus on the average 2 years before the 1981 census, represent more than 5% of the total skilled population in the 25-44 age group. This implies a yearly immigration rate of about 2%, a quite remarkable figure indeed. Percentages are, however, lower for older age groups and for Quebec, and for the more recent (1981-86) period of immigration.

This high "rate" of international "immigration" among the skilled is, of course, partially due to the fact that nationals as well as non-nationals are included in the immigration figures just discussed. However, considering the total number of international entries instead of the sole entries of non-nationals arriving with an immigrant visa, also affects the structure of the inflow in terms of skill level.

One may indeed assume that Canadian nationals who enter the country after having resided in a foreign country (where they got specialized training or study, or worked for Canadian firms or for international organizations, etc.) have on the whole a relatively high level of skill. In order to verify this assumption, let us take a look at the figures of Table 4, which produces the percentage of total international immigrants (nationals and non-nationals) holding a university degree in the total inflow, by age and period of immigration.

Table 4 – *Percentage of international immigrants (nationals and non-nationals) holding a university degree in total immigration flow, by age and period of immigration: (1) 1976-81, and (2) 1981-86*

Age	Canada		Quebec		Rest of Canada	
	(1)	(2)	(1)	(2)	(1)	(2)
15-24	17	19	16	18	17	19
25-44	37	41	38	41	37	41
45-59	22	27	25	30	21	26
60+	13	16	15	15	13	16
Total 15+	27	36	29	32	27	37

Source: Statistics Canada, special tabulations of the 1981 and 1986 censuses.

If we consider only the 1986 figures, we observe that about one third of the immigrants who entered the country in 1981-86 held a university degree (a little less in Quebec), and that this percentage exceeds 40% for the 25-44 age group.

These percentages should be compared to the figures of Table 1, which show that among immigrants who entered the country in 1978-82 and 1983-86 with an immigrant visa (thus as non-nationals) the percentage of university degree holders was about 15%.

A large part of non-nationals immigrate as refugee or within the family reunion program, and most of them are poorly skilled, in contrast to nationals who return to their country. In analyzing the level of "skill" of immigrants, it is thus highly advisable to distinguish between nationals and non-nationals.

Instead of comparing the number of (surviving) skilled immigrants who arrived during a given period to the total stock of skilled people at the end of the period, as was done in Table 3, we may compare the variation of the stock over the period. This may be viewed as a way of estimating to what extent the change in the "supply" of skilled people depends on international immigration. At the regional level, the same calculation may also be carried out for internal immigration, so that we may compare the respective contributions of both. Moreover, the residual of these two external (that is, external to the region) sources of change in the region's supply of "skilled" people should by definition be attributed to local "production" of skilled people (and if we consider age groups, to the shifts between age groups, due to the aging of the cohorts). Table 5 presents the results of these calculations for the 1981-86 period.

Table 5 – *Percentage of 1981-1986 international (column 1) and internal (column 2) immigrants in 1981-86 variation of total number of university degree holders, by age*

Age	Canada	Quebec		Rest of Canada	
	(1)	(1)	(2)	(1)	(2)
15-24	28.3	19.9	25.0	30.4	14.0
25-44	21.5	15.2	16.7	23.4	12.9
45-59	12.5	8.5	5.5	13.8	5.3
60+	8.5	7.9	5.4	8.6	4.3
Total 15+	19.0	13.8	14.4	20.5	8.6

Source: Statistics Canada, special tabulations of the 1981 and 1986 censuses.

On the whole, international immigrants (nationals and non-nationals) of the 1981-86 period accounted for about one fifth of the increase in the supply of university degree holders during the same period. This contribution decreases with age and is markedly lower in Quebec than in the rest of Canada. Actually, as far as increasing the supply of "skilled" people is concerned, Quebec seems to "depend" more on immigration from the rest of Canada than on immigration from the rest of the world, while the rest of Canada does only marginally depend on immigration from Quebec (Quebec's French-speaking population – which

represents 83% of the total population of this province – has a very low propensity to move to the rest of Canada). Both regions depend on migration from outside for about 28%. Correlatively, "local production" of university degree holders represents about 70% of the increase in the stock of university degree holders (this percentage drops however to 55% for the 15-24 age group).

Thanks to Quebec's register of immigrants, we are able to obtain with great detail yearly data on the number of immigrants entering (for the first time) this province with an immigrant visa (by definition, only the entries of non-nationals are thus considered). These data allow us for instance to desegregate according to country of birth. The criterion of the level of "skill" is however not the highest level of schooling reached by the immigrant (as with the census data discussed before), but the number of years of schooling, the highest category being those having 17 years of schooling or more. Table 6 presents the figures for the 10 countries which in 1981-85 (calendar years) provided the largest number of immigrants of the latter category. These 10 countries account for 57% of the most "skilled" (according to this new criterion) immigrants, but only for 38% of all immigrants. These two percentages clearly show that the most skilled immigrants originate from a few countries and that for most countries of origin (birth) the flow of migrants contains only a minority of highly skilled people.

Table 6 – *Countries of birth of immigrants with 17 years of schooling or more, Quebec 1981-85*

Country	Share in total number of immigrants with 17+ years of schooling (1)	Share in total number of immigrants (2)	Percentage of immigrants with 17+ years of schooling in total number of immigrants (1) + (2)
1. France	9.7	6.9	19
2. Poland	8.8	5.0	24
3. United States	8.4	3.3	34
4. Vietnam	5.7	8.7	9
5. Iran	5.5	2.3	32
6. U. Kingdom	5.3	3.0	23
7. Rumania	3.7	2.1	24
8. India	3.7	2.3	22
9. Egypt	3.6	1.6	30
10. Lebanon	3.1	2.8	15
Total % First 10 countries	57.3	37.8	20
Total all countries	5,334 (Nb)	39,897 (Nb)	13

Note: The 1981-85 period refers to calendar years, and countries of birth are ranked according to share in total.

Source: Ministère des Communautés culturelles et de l'Immigration du Québec, Bulletin annuel.

On the whole, 13.4% of immigrants who entered Quebec in 1981-85 had 17 years of schooling or more (before immigration). This percentage is quite close to the 1983-86 figure (14.4%) presented in Table 1 and based on census data (and thus referring to immigrants surviving in 1986 in Quebec and holding a university degree at the moment of the census). The share of "highly skilled" (in terms of number of years of schooling) reaches 20% for the flow of immigrants originating from the 10 countries enumerated in Table 6, and for some countries (the United States, Iran, and Egypt) this share represents even more than 30%. One may note that the flow of migrants from Vietnam (which in the first half of the eighties was one of the main "suppliers" of migrants to Quebec) contains only a small proportion of "highly skilled" people. The same is even more valid in the case of Haiti, which is the main supplier of immigrants (13% of the total), but with only a very small number of highly skilled among them (only 2.6% of 1981-85 immigrants from Haiti had 17 years of schooling or more).

Finally, one should take a look at the numbers. According to Quebec's register of immigrants, a little more than 8.000 immigrants with at least 17 years of schooling entered this province in 1978-85 (a little more than 5.000 among them entered in 1981-85 – see Table 6). According to the census, a little more than 14,000 immigrants (non-nationals) holding a university degree resided in Quebec on the 1st of June 1986. From the comparison between these two figures, and assuming that, on average, it takes about 17 years to get a university degree (and disregarding also some other comparability problems, for instance the fact that census answers tend to "upgrade" the highest level of schooling reached), it seems reasonable to infer that an important share of the 1978-86 "skilled" immigrants enumerated at the 1986 census got their "skill" after immigrating to Quebec, thus on the average after about four years of stay. Such a result shows how careful one has to be when trying to interpret data on skilled immigration, particularly when census or survey data are used. A solid critical analysis of the data and a sound application of cohort analysis are essential in analyzing skilled international immigration.

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Skilled migrations from Italy *

1. *Introduction*

Although there appears to be a growing interest in the "brain drain issue", very little has been published about it, particularly in Italy. A recent issue of the journal, «Studi Emigrazione» (Maffioletti, 1992) includes a periodical bibliographical survey on international migration (1986-92), obtained by leafing through and examining nine specialised international journals [1] (three in English, three in Italian, two in French and one in Spanish). Out of almost 1,500 articles listed, only 11 deal with the issue of brain drain and 8 with professional emigration. And none with the Italian situation.

This paper intends to analyse the brain drain phenomenon in its different impacts within several geopolitical contexts, with a view to highlight the most recent developments, thus interpreting the evolutionary tendencies of the Italian case. Given world-wide organisational and technological changes which have occurred in the working world, accelerated by the consolidation of the Single European Market, the concept of brain drain in relation to Italy has come to be seen as relevant. An attempt is made to examine the characteristics of the Italian case through the interpretation of available statistics on international migration movements. It will be seen that Italy is characterised by a particularly differentiated level of economic development at the regional level.

2. *Typologies of international mobility of the specialised workforce*

The term brain drain has been in common use for at least 35 years, ever since researchers, engineers, and scientists moved from Great Britain to the United

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[1] Affari Sociali Internazionali, Altreitalie, Asian and Pacific Migration Journal, Estudios Migratorios Latinoamericanos, International Migration, International Migration Review, Migration Société, Revue Européenne des Migrations Internationales, Studi Emigrazione.

States. This type of migration between economically advanced countries,[2] and in particular between Great Britain and the United States, was the result of opposing forces. These forces of attraction and of repulsion vary according to two factors: the age, status and aspirations of the individual person; and the particular economic and political situation prevalent in each state (Glaser, 1978). Among the forces of attraction, Angel (1991) lists wage and tax differentials, new career moves, increased social status, superior research facilities, better quality of life, the need to catch up with technological developments, preference for a different political system, and, finally, the example of peers and of senior colleagues who have already emigrated.

Among the motivations considered relevant to and part of the decision-making process not to leave, Angel lists a reluctance to face the status of immigrant, the future readjustment problems, the attachment to one's own cultural roots, the preference for a known education system, the loss of familiar and valued professional contacts, a certain laziness in tackling the new and unfamiliar.

Adams (1968), Watanabe (1969) and many academics after them have used the term brain drain indiscriminately to describe any flow of specialised workforce from developing countries to more economically developed countries. On the whole, these first studies were based on approaches which viewed the phenomenon from an exclusively negative point of view. In this regard, the migratory phenomenon which had involved mostly engineers, doctors, and researchers in the physical and natural sciences, was advantageous to the individual migrant, while for the sending society it was presented not only as a negative return on investment in the education and training sectors, but also as a loss of qualifications held by emigrants.

An analysis on the propensity of highly trained Latin-Americans to emigrate shows that this consistent tendency has varied between the years 1961-75, more so because of the economic performance and accessibility to the host countries, above all the United States, rather than the ability of donor countries to implement policies to reduce the phenomenon (Torrado 1980). As a result, 60,000 Latin-Americans – with a prevalence of engineers, doctors and specialists in the natural and social sciences – migrated to the United States in the aforementioned period, with an annual flow of over 5,000 between 1961-69.

In India, the migration of the highly educated and skilled, especially to the USA, began in the 1950s, reaching significant levels in the 1960s, and thereon recording a downward trend on account of other destinations vying for their services, for example in the Middle East. Due to the variety of flows, academics have labelled these flows brain drain, brain overflow, and brain export. Oomen (1989) stresses the necessity to look more in depth at the qualitative and quantitative characteristics of the phenomenon, collect precise data as far as the cost-benefit ratio, including the costs incurred by the country of origin for the education of the young Indian researchers, and the remittances of the emigrants

[2] It is calculated that during the 1950s and 60s at least 100,000 scientists moved from Europe to the United States.

themselves. Each year approximately 11,000 graduates, predominantly engineers, doctors and physical and natural scientists, leave India to work or continue their studies abroad. Although a certain quota, about 20-25%, settle definitively abroad, mostly in the United States, many others return home after a few years.

In 1985, an analysis of a significant sample of Korean doctors who had graduated between 1953 and 1972 shows that almost 60% of them had migrated to the United States, with even higher percentages for the women. Shin and Chang (1988) demonstrate that migrant Korean doctors occupy secondary positions in the American health system, without, as a consequence, sidestepping local graduates. They fulfil complementary rather substitutive roles in relation to the local graduates and therefore contribute to enhancing the levels of the local professionals and the growth of the economy in general. In so doing, they reflect a pattern existing in other types of migrations, facilitating a gradual assimilation into the local professional structure. This fosters and supports the interests of the immigrant doctors, while, at the same time, perpetuating the brain drain.

In the United States, one of the main historical magnets of foreign brains, legislation has been regulating the immigration of professionals. This has been introduced and implemented by the US following the steep increase of entries during the 1960s and early 70s and the ensuing economic crisis which had left significant numbers of American graduates out of work at the beginning of the 1970s. The requests for permanent work permits fell from a maximum of almost 25,000 in 1976, to about 13,000 in 1982, with the percentage of applicants already resident in the United States rising from 44% to 90%. The successful applicants rose from just over 8,000 in 1976 to 11,000 in 1982, for the non-medical professions, and dropped from 11,000 to 1,000 for the medical professions (Yochum and Agarwal 1988).

In his analysis of the characteristics and the dimensions of the phenomenon, Khadria (1991) maintains that the brain drain of Indian professionals lost to the USA continued even after the mid-70s, even though statistically it had become less "visible" and had been underestimated by academics. In compliance with USA's regulations, the majority of the flows from India is justified by motives of family reunion, even though it involved highly qualified individuals. The significance of the phenomenon has led Khadria to believe that the Indian government had acted rightly in rallying with other countries of the Third World to consider the brain drain in the context of the more general confrontation with developing countries.

After the fall of the Berlin Wall in November 1989 and the profound political transformations in all countries of Eastern Europe, a more recent East-West brain wave has been occurring. In fact, the Berlin Wall was originally built in 1961 to block the escalating migratory flow from East to West Germany, which had reached the sizeable figure of 3,700,000 individuals, many of whom were intellectuals, researchers and professionals (Chesnais 1991). Equally consistent was the percentage of intellectuals who had migrated to the West following Soviet armed intervention in Hungary (1956) and in Czechoslovakia (1968).

In the years stretching from the construction to the demolition of the Berlin Wall (1961-1989), it is estimated that no less than 1,800,000 people (Chesnais

1991)[3] 100,000 per annum out of a population of 400 million moved from the Warsaw Pact member states. The liberation of migration flows from the countries of Eastern Europe coincides with the implementation of Gorbacev's *Perestroika* in 1985. At that time, outmigration was viewed by the Soviet Government as a means of reinforcing economic links with capitalist countries. Between 1948 and 1990, approximately 1,130,000 emigrated from the Soviet Union, of whom about 850,000 between 1987-90 (Shevtsova 1992).[4] A law on the procedures of expatriation and repatriation of Soviet citizens was only approved in 1991 and implemented in 1993. During the heated debate in Parliament the main worry relating to the exodus was that it would involve, above all, graduates and skilled labor, thereby reducing the capability of the country to turn from a centralised regime and a planned economy to a liberal government and market economy.

3. *Italian emigrants with high levels of education*

According to recent (1993) ISTAT data, in 1989 66.000 persons transferred their residence abroad. Of these, slightly less than 5% were in possession of a university degree and slightly less than 12% had secondary school diplomas. This revealed that those migrating held twice the number of degrees as compared, proportionately speaking, to those remaining in Italy (Census, 1981). These values differ considerably on a regional basis: for example,in central and northern regions, the percentage of expatriating university graduates reach, respectively, almost 10% and 9%, to drop to 1.7% for Southern Italy and 0.8% for the islands. The same difference exists as regards secondary school graduates, with considerably higher percentages in northern (20.5%) and central (17.8%) regions.

A total of over 3,000 persons holding university degrees, and slightly less than 8,000 with diplomas have moved abroad. University graduates have gone, for the most part, to other EU countries (47.4%), America (23.3%) and Africa (11.3%); secondary school graduates mostly to EU countries (51.7%), and then to America (17.2%), to non EU member European countries (13.4%), and Africa (10.5%).

Differences also exist between the various continents of destination. There is a lower than average educational level for those moving to Oceania (2.7% with university degrees and 8.8% with diplomas), the non EU member European countries (3.1% with university degrees and 11.9% with diplomas) and the EU countries (3.6% with university degrees and 9.4% with diplomas). Above average ratess were recorded for transfers to America (8.7% with university degrees and 15.4% with diplomas), Asia (13.3% with university degrees and 23% with di-

[3] Chesnais (1991) calculates the total numbers of emigrants from Hungary and Czechoslovakia to 200,000 each.

[4] Shvetsova (1992) recalls that during one of the Russian Parliament's numerous and heated debates on the emigration law, an MP declared: "there'll only be pensioners and incompetents left".

plomas) and, in particular, Africa (12% with university degrees and 26.8% with diplomas).

Also included within each considerably differentiated destination are levels of education according to regions of origin. For example, individuals transferring from the central and northern regions had considerably higher educational levels than those from the southern regions, with the exception of Africa, where the percentages of university graduates coming from central-southern areas are considerably higher than those from northern Italy, and a little less for those with diplomas.

A very limited, but equally significant, sample was based on a continuous survey conducted on graduates of the Luigi Bocconi Business Institute in Milan. Of the 19,000 graduates[5] approached, less than 5,000 (the equivalent of 26%) responded. Among those who were part of the survey, approximately 7% live abroad presently: approximately 80% in EU countries, and approximately 19% in America. Divided by individual country, the largest part of the sample resides in Great Britain (26%), Switzerland (21%) and the United States (16%).

4. *The migration of Italian intellectuals: 1974-90*

Over the last twenty years, data have been worked out on migration of Italians with a school certificate or a university degree. Together with the appropriate Istat department,[6] it was decided to examine data obtained from cancellations occurring at the communal registry offices under the law no. 1228/54, using form MOD.AP/4. The quality of the available data made it necessary to look exclusively at data relating to the period 1974-90, excluding 1989. Furthermore, as some communes were late in providing Istat with data, the statistics have been considered globally, i.e. by totalling the emigrants with degrees or diplomas from Italy's communes during the past 16 years, and dividing the total by the number of years to produce an annual average. The number of migrants per annum and per commune was referred back to the population resident therein at the 1981 census.

In the period 1979-90 the number of communes with an annual average of emigrants with a degree or secondary school diploma exceeding 2 in 10,000 persons was 260. Of these, over half (73%) were situated in northern regions, 14% in central regions and the rest (13%) in the South. The majority of communes were situated in the provinces of Bolzano and Turin, followed by Vercelli, Novara, Varese, Como, Milan and Genoa. None of the communes in the following provinces registered ratios as high as 2 in 10,000: Aosta, Brescia, Mantua, Verona, Treviso, Venice, Padua, Rovigo, Trieste, Piacenza, Reggio Emilia,

[5] It has been estimated that approximately 28,000 students have received university degrees from Bocconi, since 1906.

[6] Particular thanks are due to Dr. Manese of Istat's Demographic Dynamics section for his valuable time and precious advice.

Modena, Bologna, Ferrara, Ravenna and Forlì. The presence of communes with the 2 in 10,000 ratio was negligible in the Centre: only in the provinces of Pesaro, Urbino, L'Aquila and Campobasso. In the rest of Italy no communes topped this ratio. The percentage of emigrants with an academic qualification was not particularly significant even in the most highly urbanised areas. For example, among the provincial capitals only Parma registered an annual average higher than 2 in 10,000, and communes such as Genoa, Como, Bergamo, Bolzano, Trento and Udine in northern Italy, and Rome in the Centre registered ratios between 1,5 - 2 in 10,000. In the next category (1 - 1.5 in 10,000) the following communes were represented: Turin, Cuneo, Savona, Varese, Sondrio, Pavia, Cremona, Vicenza, Treviso, Padua, Trieste, Piacenza and Bologna in northern Italy, and Urbino and Pisa in the Centre.

At the 1981 census there were 8.086 communes in Italy. Their size and number per region vary according to the political and administrative decisions taken throughout the centuries. Therefore, in some areas, the communes are so few and so sparsely populated that they serve only to falsify any ratio or parameter which is applied to the entire national territory. Nevertheless, the commune-based data on migrants with degrees or diplomas is valid both for the purpose of comparing annual migration rates, and for checking certain migratory tendencies without aggregating the data into larger territorial blocks. Furthermore the communal figures, whether for the larger communes with millions of residents, or for small ones with just a handful of people, allow us to highlight the significance of the migratory phenomenon for each commune, even if overall the data is of little statistical value.

The migratory phenomenon of qualified individuals from Italian communes which is of little importance within the globality of the period under investigation (1974-90) takes on more importance when considered on an annual basis. If the period is divided into two parts, 1974-80 and 1981-90, substantial differences emerge.

In Table 1, we note that the percentage of communes with a annual ratio of over 2 per 10,000 persons in the period 1974-90 is negligible. Much more significant is the percentage difference between the two periods: 1974-80 and 1981-90. During the first period, the rates were very low in the majority of northern regions and next to nothing in the others. In the second period, the ratios show that, even if with substantial variations, the migration of qualified individuals began to affect all regions in the country. In addition, although the values in the South and Centre were very low, migration from all the northern regions reached significant levels, particularly in the regions of Trentino-Alto Adige, Friuli-Venezia Giulia, and Liguria.

Between 1974 and 1980 only 12 communes had ratios of migration of qualified individuals exceeding 2 in 10,000 (Figure 1). All these communes were situated in northern Italy in the regions of Lombardy, Piedmont, Valle d'Aosta, Trentino-Alto Adige, and Friuli-Venezia Giulia. The highest ratios recorded in provincial capitals were found to be in Bergamo, Rome and Parma with annual percentages of about 0.5 in 10,000 persons.

Table 1 – *Percentage of communes with an annual rate of emigration of individuals with degrees or diplomas exceeding 2 for every 10,000 residents at the 1981 census, divided by region and into the following periods: 1974-90, 1974-80 and 1981-90*

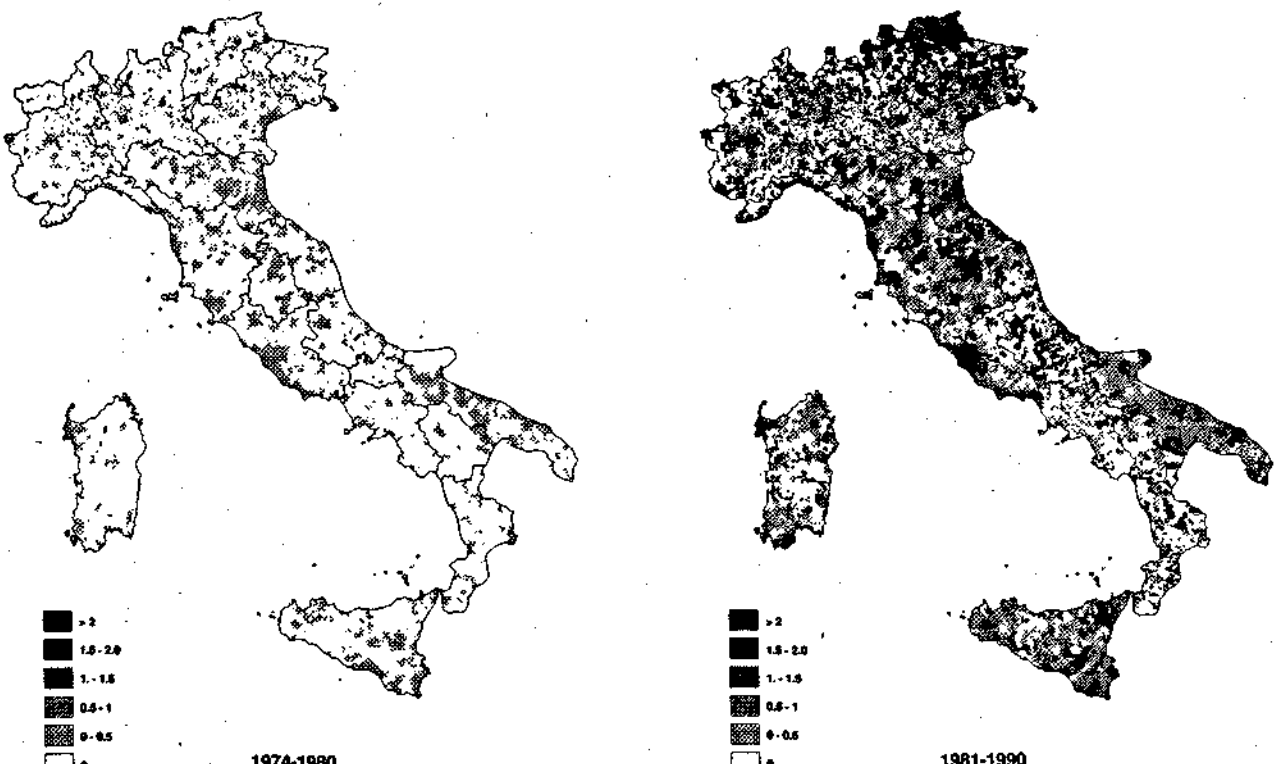
REGION/year	1974-90	1974-80	1981-90
Piedmont	0.05	0.003	13.00
Valle d'Aosta	0	0.01	12.00
Lombardy	0.04	0.003	13.00
Trentino Alto-Adige	0.01	0.003	35.00
Veneto	0.018	0	10.00
Friuli-Venezia Giulia	0.05	0.005	28.00
Liguria	0.09	0	25.00
Emilia-Romagna	0.003	0	6.00
Tuscany	0.02	0	0.08
Umbria	0	0	0.07
Marche	0.05	0	0.12
Latium	0.02	0	0.10
Abruzzi	0.05	0	0.20
Molise	0.06	0	0.20
Campania	0.009	0	0.04
Apulia	0.008	0	0.08
Basilicata	0.008	0	0.09
Calabria	0.007	0	0.07
Sicily	0.008	0	0.10
Sardinia	0.01	0	0.06
ITALY	0.03	0.001	0.13

Source: Istat, unpublished data.

In the second period, from 1981 to 1990, annual percentages exceeding 2 in 10,000 were registered in 1,015 communes, of which about 70% in northern Italy (Figure 1). About 70 communes in the province of Bolzano, representing 60% of the total, registered over 2 in 10,000, and about 50 communes in the provinces of Turin, Como and Trento. This compared with approximately 30 communes in the provinces of Vercelli, Novara, Imperia, Varese, Milan, Bergamo, Udine, and about 20 in Cuneo, Alessandria, Genoa, Sondrio, Belluno and Pordenone in the North, and Pesaro, Urbino, Rome, L'Aquila, Chieti, Campobasso and Messina in the Centre and South. Many of the numerous, sparsely populated communes which exceeded the 2 in 10,000 rate belonged to areas of attraction of the provincial capitals.[7] In particular, around 60% belonged to the areas of attraction of Bolzano and Udine, 40% to those of Como and Imperia, 30% of Trento, Cuneo and Pordenone, while the rest of the provincial capitals listed above registered lower percentages. Certain highly productive communes registered significant

[7] Here we refer to the definition of "areas of attraction" and to the appendix of Vitali's paper (1989), pp 58-87.

Figure 1 – *Annual emigration of Italians with a school certificate exam or a university degree, 1974-90, ratio of emigrants per 10,000 residents, by municipality*



values, for example Grugnasco and Ivrea in the province of Turin, Gallarate, Erba, Saronno, Arese, Monza, S. Donato Milanese, Segrate, Vimercate, in Lombardy, and Ispra where a centre for international research is situated. Communes in tourist areas also registered significant rates, for example, the lake area of Stresa, Verbania and Campione d'Italia, and the seaside resorts of Bordighera, Ospedaletti, Ventimiglia, Diano Marina, San Remo, Alassio, Albissola, Chiavari, Rapallo and Lerici. Alternatively, many of the communes registering high rates of emigration were in the provinces of Bolzano, Trento, Udine and Pordenone, perhaps because of their cultural and geographic proximity to central and northern Europe and their tradition of international mobility.

The communes in the province of Rome, within what is generally recognised as the Metropolitan area of the capital, were all included, while communes in other provinces of the Centre and South registered much more varied results. Alongside urban centres with fairly large populations such as Fano, Avezzano and Sulmona, there were also small communes in the interior where there has always been a migratory phenomenon among the workforce. In these regions, too, certain important tourist communes were included such as the mountain resort of Ovindoli, and the seaside resorts of Taormina and Giardini-Naxos. Among the provincial capitals, with an annual ratio of 4-5 in 10,000 were Parma and Como. Those with an annual ratio of 3-4 in 10,000 were the communes of Bolzano, Trento, Bergamo, Pordenone, Udine, Pavia, Genoa, Sondrio, Varese and Rome. In the North the following communes exceeded 2 in 10,000 : Turin, Novara, Cuneo, Savona, Cremona, Verona, Vicenza, Treviso, Padua, Trieste, Piacenza and Bologna. In central Italy the only communes exceeding the 2 in 10,000 mark were Urbino and Pisa, and as previously mentioned, Rome, and in the South only Siracusa exceeded the mark. During 1981-90 all the provincial capitals in central and northern Italy exceeded the ratio 1 in 10,000 with the exception of Asti and Rovigo in the North, and Carrara and Latina in the Centre. In the Mezzogiorno, on the other hand, all the provincial capitals fell below 1 in 10,000 with the exception of L'Aquila and Pescara in Abruzzo, Siracusa in Sicily and Sassari and Cagliari in Sardinia.

5. *Italian professionals and managers moving to the United States*

The data obtained through Istat surveys can be utilized on recent Italian migrations by receiving countries. For example, as regards the United States, the Institute of statistics (INS) publishes data relative to the employment of immigrants, although the survey criteria have not yet been clearly defined. In fact, the profession under consideration is at times the one practised in Italy, and at others the first in the USA, or simply the level of specialisation (Tomasi and Keely, 1975). In addition to this, it should be kept in mind that, on the basis of the 1965 Law on Immigration, annual immigration quotas (overall and by countries) were established according to priority categories, determined on the basis of degree of relationship with citizens, or residents in the USA and on the demand for various specialisations and qualifications by the US labour market. From 1966 to 1986, approximately 275.000 Italians were admitted to the United States; slightly

less than 3% of the total immigration to the USA. During the same period, the percentage of Italian professionals admitted was 3%, and managers slightly less than 2%. However, it would be useful to point out here that the percentage of professionals went from slightly over 2% in 1966 to slightly under 8% in 1986. For managers it went from 1.0% in 1966 to slightly under 5% in 1986. Battistella (1990) claims that "proportionally speaking, Italy remains the country with the lowest number of professional, technical, managerial and administrative support personnel entering the US". In fact, during the same period, the percentage of professionals went from 19.3% (1966) to 16.3% (1986) for Irish emigration, from 18.3% to 16.3% for Britons, from 13.4% to 14.7% for French, and from 8.0% to 10.9% for Germans. The percentage of managers as compared to the total number of German immigrants (from 1.5 in 1966 to 4.6 in 1986) is similar to that of Italian immigrants. Irish immigration, however, went from 1.3% to 7.8%, and English and French from approximately 2% to 9%, respectively. It is necessary to consider the situation as analogous to the above mentioned Indian study (Khadria, 1991), when relating to migration of Italian graduates to the United States, mostly admitted on account of family reunion reasons. This is confirmed by an analysis of data by INS and Istat although the non-homologous nature of the criteria make any comparison difficult (Table 2).

Table 2 – *Number of Italian professional, technical, managerial, and administrative support personnel entering the US and number of cancellations at the communal registry office of Italians emigrating to the US with a school certificate exam or a university degree, 1972-86*

	admitted to the US (*)		emigrating to the US (+)	
	Profess. Technical	Managers Administr.	with a school certific. exam	with a Univ. degree
1972	489	275	20	0
1973	474	290	7	0
1974	460	251	247	4
1975	420	240	182	0
1976	324	237	202	0
1977	388	273	295	0
1978	357	247	272	0
1979	292	235	297	0
1980	N/A	N/A	296	144
1981	N/A	N/A	345	154
1982	271	162	590	273
1983	237	172	511	235
1984	216	163	492	321
1985	234	159	561	348
1986	242	147	500	301

Sources: (*) Battistella, 1989; (+) Istat, unpublished data.

6. *Conclusions*

During the last few decades the international mobility of graduates and skilled individuals has reached significant levels. In some countries and international institutes, research has been trying to define the typologies and characteristics of such mobility and possibly alleviate any negative impact in donor countries. Economists, sociologists, political scientists, anthropologists, but, above all, geographers have tried repeatedly to tackle the question whether the brain drain is a uniquely negative phenomenon or whether it does indeed have its positive aspects. This paper has attempted to show how the term brain drain covers a variety of completely different phenomena which have become highly differentiated during recent years, as a result of economic transformation and political change.

In Italy, the phenomenon differs according to the various stages of economic performance and internationalisation of the productive system in the various regions. This paper has defined a series of themes and questions, but the difficulty of collecting data and the novelty of the theme have prevented detailed analysis of individual aspects. Even hypotheses-making on a number of issues appears rather risky.

It may be anticipated, however, that the evolutionary tendency in Italy will probably follow the same pattern as in other industrialised countries with highly internationalised economies. In addition to traditional forms of migration of talents, there are various forms of mobility which escape existing statistical methods of measurement. And it will continue to be so, as long as the internationalisation of the economy progresses and the strategies of the big multi-national firms remain unchanged.

The mutual inter-country recognition of qualifications, the increased diffusion of languages and the development of the Single European Market will further facilitate the mobility of Italian graduates, managers and professionals. It is therefore essential to gain further knowledge of the phenomenon, set up cognitive instruments and policies able to keep a tab on the circulation of the professional elite, especially within the European circuit.

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Skilled migration in Spain

1. *Introduction*

Some issues in the wide field of research on international migration require immediate analysis. Defining the various types of immigrants with a view to diagnose their statistical nature and observe their administrative procedures is undoubtedly one of the hardest tasks involved.

One issue of this kind is skilled immigration. This was initially defined as "brain drain", and required North-South reference points (or developed-underdeveloped) in order to be conceptualized (United Nations, 1984, 393). This concept is currently falling into disuse among social scientists (Appleyard, 1991). Other theories, based on economics, concentrate on the organization of production and the segmentation of the job market (Salt and Findlay, 1989), the design of staff exchanges between multi-national firms, or production strategies within multi-national companies in which population movement is one of the essential factors (Cormode, 1993). The terms used have changed with time ("brain drain", "skilled international migration", "temporary professional transients", "skilled international circulation"), and stress its temporary nature and the involvement of highly qualified workers in a framework of economic and political relations between states or multi-national companies.

Such diverse views have given rise to both positive and negative aspects: the progress of the theoretical study of skilled immigrants, but the very specific nature of many jobs, which can prevent them from becoming generalized. To complement the theoretical progress, a wide range of bibliographic references have to be compiled, following the guidelines used as a reference for international comparison (types of movement, available sources, social, economic and political framework, etc.).

The purpose of this study is the analysis of skilled foreign immigrants in Spain, based on the 1991 official data. Work Permit Statistics were used, although the value of this source is limited. They are analysed as "settled immigrants", i.e.: those immigrants who are "financially comfortable and whose papers are in order, for whom the decision to emigrate was a personal decision, little affected

by material needs or political persecution" (Prada, 1989, 231). The origin and socio-economic conditions of these subjects are clearly very different from those of a large number of economic immigrants and political refugees who have turned Spain into a country of immigrants over the last 10 years.

2. *Source analysis*

As a rule, the information available for analysing skilled immigration is very hard to come by, as a result of the very nature of this kind of movement, which is temporary. It is also due to the ease with which skilled workers are able to move within the international job market and the rigid nature of the official statistics that measure international migratory movements. It is not so much the fact that these movements are "statistically invisible" because of their size and figures (Salt, 1992), but rather that they are not thought of as "immigrants", when compared to the vast number of people of a different race, culture, religion or habits who are becoming more apparent in Southern countries.

Faced with this situation, there are two alternatives in Spain for studying skilled immigration: one can either concentrate on official data, however scarce, inaccurate or insufficient for the purpose, or one can produce one's own data by using surveys and interviews. Demographic and socio-economic information is usually seen in both official statistics and in surveys, but "motivation, values, attitudes towards the country of origin and the host country and expectations" (Marcos and Rojo, 1991, 9), are only to be found in the latter.

Traditionally, the Ministries of Home Affairs and Labour have been in charge of controlling the flow of immigration in general , and there has been no great interest in standardising its contents.

The Police Headquarters (Ministry of Home Affairs) has a file on *Residence Permits* of foreigners who come under current legislation. Any foreigner who wishes to work or live in Spain has to apply for this permit. The permit contains information such as the type of permit, the holder's nationality and country of origin, the province in which they reside, sex and age. Although the permit contains further information, the Police has not codified it, as it is of no use to them administratively (field of activity, employment, etc.).

The main limitation of these police records is that their intention is "administrative control, and was not conceived for statistical purposes" (Lopez de Lera, 1991, 105). Another lesser problem is that temporary situations, such as short-term stays and visa extensions, are not counted. The sub-record is estimated at around 25%.

The other official administrative source is the *Foreign Work Permit Statistics*, published by the Ministry of Labour and Social Security. The source of this information came from Work Permit and Residence application forms presented either by the workers themselves, or by the firm offering them the job. This application is assessed by the appropriate administrative branch (Ministry of Labour and Ministry of Home Affairs), according to the dispositions in Constitu-

tional Law nº 7/85, of 1st July 1985, on rights and liberties of foreigners in Spain (known as the "Foreigners' Law").

Work and residence permits are granted simultaneously and have the same duration, except in the case of stays of less than 90 days, which do not require a residence permit. These are general conditions which apply to all foreigners, except for some cases which are necessary to mention here because of their relevance to skilled immigration:

- Technicians and scientists hired by the Spanish government.
- Teachers hired by Spanish Universities.
- Management and teaching staff of private or public cultural institutions carrying out cultural programmes in Spain on behalf of their country.
- Members of international scientific missions working in Spain.

In order to obtain a work and residence permit, preference is given to foreigners who have held previous residence in Spain, have family ties with Spanish citizens, or who are from countries with a Spanish cultural and social environment; also, to those who work on assembly or repairs of imported foreign machinery, or in setting up foreign firms in Spain.

There are two kinds of permit, according to current law.

EC System permits come under Royal Decree 1099/86, of 26th May 1986, and affects citizens of EC member states who move to Spain to work or provide a service (holders), and their families, whether or not these are EC nationals. Currently, during a transitional period, this kind of permit covers workers who were working for a company prior to Spain's entry into the EC, as well as their spouses, who were granted 5-year permits. Self-employed workers only need a residence permit, and are therefore not included in the Work Permit statistics.

Foreign workers subject to the *General System* are those not covered by the EC System. They require a work permit in order to carry out a paid job in Spain. These permits are granted according to their duration and the type of work, i.e. self-employment or employment by a company.

In both these cases, applicants are given a foreigners' identification number and their work permit application is passed on to the Central Pemits Registry Office.

Faced with the fact that an ever-increasing number of undocumented, and therefore, illegal, foreign immigrants are working in Spain, the Administration set up a second "exceptional" regularization process in 1991 (the first being in 1985), under which work permits were granted to all those who could produce documentary proof of their residence in Spain prior to 24th July, 1985, and to all those who were in Spain in May 1991 and had previously held work permits.

Most of this population was from Third World countries and had entered Spain illegally, in a situation which made it possible for a massive influx of immigrants to arrive. Its structure, therefore, has little to do with that of skilled immigrants. They were included as workers with one-year permits under the General System.

The information contained in the statistics on work permits is divided into 4 groups: administrative aspects (type and duration of permit, according to law; type of work: self-employed, employees), demographic aspects (age, sex),

economic aspects (field of activity, economic sectors, occupation), and geographic aspects (nationality, host provinces and regions).

This was the best source for extracting facts about skilled foreign immigrants in Spain, i.e.: through workers' occupations. This variable is divided into 8 categories, of which only the first two could be associated with a wide definition of skilled immigrants. The first, *professionals, technicians, etc.*, covers workers who have received a university education and applies to the fields of science, engineering, economics, business and computer science, all of which top the list of professional qualifications. It also covers lower-level technicians who work with professionals. It is therefore fairly heterogenous and no definitive conclusions regarding the behaviour of skilled immigrants can be drawn from it.

The second category is known as *management staff* in public administration, and company managers. This group includes people whose function is to plan financial activity within companies or organizations. It excludes the managers of agricultural firms, small trades or catering. This is where the real skilled immigrants are to be found.

Other official sources, also limited in their use, provided us with an up-to-date picture of skilled immigration in Spain.

The most complete source was the 1991 *Population Census* (and before that, the Register of Local Population of 1986). As a basic document containing Spanish statistic information, the Census provides demographic data (sex, age, marital status, family situation), socio-economic variables (educational level, economic activity, occupation, profession), and information on population movement (place of birth, nationality, place of residence 10, 5 or 1 year ago). It has the advantage of being able to provide information on all the resident population (including foreigners), but the disadvantage of being enormous in size and not being currently available.

The *Statistics of Residential Variations* contains the number of people who move from one municipal area to another, and is a useful source for finding out the flow of immigrants, but not for tracing their socio-economic and demographic features.

In addition to the 1991 Census, a *Socio-Demographic Survey* (SDS) was carried out. From a sample of 160.000 people, and in three stages, five large subject areas were examined, amongst which were the migratory movements of people, their changes of residence over the last ten years, migratory routes and reasons for moving. Although this is a unique source, the inclusion of foreign population in the SDS presented some problems due to the interviewing methods employed (difficulty in understanding the language), and the inability to make a survey of illegal immigrants.

Finally, there are occasionally some fragmentary unofficial sources devoted to follow up undocumented, or illegal immigrants and refugees. But there are none for skilled immigrants, as they are not a problem which requires either care or help.

3. *Skilled foreign immigrants in Spain*

The official source used for this paper was the "Work Permit Statistics" of 1991. There were three reasons for this choice:

a) This source contains both the most and the best information on skilled immigrants, in spite of the inherent shortcomings of a source with a basically administrative function.

b) Since the Foreigners' Law was passed in 1985, sufficient time has elapsed for the number of administrative documents (work permits) to have approached the real number of immigrant workers; enough, in fact, to assume that real life is well represented by the information provided.

c) In 1991, a regularization process took place for immigrants in an irregular situation. Although the type of immigrants affected by this were not all necessarily "skilled", it was possible to compare both types with the 1991 data.

The purpose of this chapter is to briefly show the most important aspects of skilled immigrants.

a) *Stock*

It has been (and still is) a tradition among social scientists to make a thorough study of the "stock" of all types of immigrants. In order to do so, they consult the available sources and apply various calculation methods. These scientists have two purposes: to make an estimate of the number of foreigners in Spain while discovering the shortcomings of official sources, and to try to measure the growth cycles of such a population. In this way, the change of tendency in Spain has been identified, as it has moved from being a country of emigrants to a country of immigrants (Colectivo IOE, 1987; Muñoz-Perez and Escribano, 1989; Gomez Castaño, 1989; Prada, 1989; Gozalvez, 1990; Lopez de Lera, 1991; Izquierdo, 1992).

As skilled immigrants have not been a "troublesome" group, their presence has become almost "invisible" and, therefore, it has not been necessary to find out how many there were. Only Izquierdo (1992) has analyzed their evolution over the last few years by using work permit statistics (Table 1).

Table 1 – *Evolution of work permits for skilled immigrants in Spain*

CATEGORIES	1987	%	1988	%	1989	%	1990	%	1991	%
Professionals, Technicians	9.934	19,0	9.449	20,7	11.148	23,8	13.069	25,5	19.851	33,6
Management staff	3.002	5,7	2.814	6,2	2.273	4,8	3.261	6.4	3.261	5,5
Total	52.258		45.539		46.881		51.210		58.991*	

* Except for illegal immigrants regularized in 1991.

Although not quantitatively large, professionals and technicians and management staff are two groups which have undergone a major increase over the last few years, whereas other categories of workers have tended to stabilize since 1985, particularly those who are less qualified (except for those workers who took part in the two regularization processes, in 1985 and 1991). It is, in fact, a logical tendency among "legally accepted" workers, which reflects "the policy followed regarding the admission of foreign workers in general" (Izquierdo, 1992, 95).

b) *Origin*

Traditionally, the arrival of immigrants in Spain was conditioned by two main factors: physical distance and economics (the greater the geographic proximity and the economic flow, the greater the number of immigrants), and Hispanic culture, in the guise of a common language and traditions.

However, when discussing skilled immigrants, the first factor takes priority. Sometimes geographical distance is more important, at others it is Spanish integration into the Western economic world, but it is almost always both at the same time.

Recent general immigration in Spain is above all European, in terms of its size (two thirds of total work permits), and African and Asian in terms of its growth rate. The point is to identity two kinds of immigrant, according to their skills and qualifications.

In 1991 (Table 2), there is a clear discrepancy between qualified workers, depending on the system to which they belong. Those who enter as EC citizens who have already worked in Spain (whether or not the members of their family are EC citizens), are mainly of European origin (over 75%). Among workers in the General System, the variation consists in a drop of percentages (the European immigration is a third of the total) and in a new top position held by South-American workers (particularly Argentinians). As professionals make up a heterogeneous category, it is possible to find among them workers with average skills.

The highest number of skilled immigrants – both professionals and management staff, and in both work permit systems – come from EC countries with notable economic relations with Spain in commercial, finance, and business, such as the United Kingdom, Germany, France and Italy (and Portugal, whose immigrants in both systems are less skilled). Over 50% of British immigrants in 1991 are professionals and management staff, and these figures are slightly smaller though still high for the French, (36%), Germans (34%) and Italians (31%). These numbers are overwhelming considering the skilled immigrants from the United States (74%) and Japan (55%). All these nationalities clearly prove the economic relationship with Spain, one of the most important of which is "the important economic role played by foreign capital in Spain" (PRADA, 1989, 223), while other countries which are large suppliers of immigrants, such as Morocco, the Philippines, the Dominican Republic or Portugal, hardly provide any skilled immigrants, in spite of their geographic and cultural proximity.

Table 2 – *Work permits issued in 1991 (at 12/31/1991) applied for skilled immigrants coming from several countries*

	General System			EC System		
	Professionals Technicians	Management Staff	Total	Professionals Technicians	Management Staff	Total
EUROPE	5554 (33.3%)	839 (38.4%)	21858 (19.7%)	2333 (73.8%)	978 (89.4%)	11225 (74.5%)
EC	3838	497	13694	2245	956	10787
Germany	443	76	2085	471	240	2085
Belgium-Lux.	63	16	477	64	37	335
Denmark	37	15	311	44	22	176
France	422	155	1591	335	220	1508
Greece	1	1	35	9	6	38
Ireland	333	5	451	118	7	160
Italy	192	58	894	204	133	1091
The Netherlands	133	29	862	120	76	616
Portugal	90	17	2320	89	25	2946
United Kingdom	2124	125	4668	791	190	1832
Rest of Europe	1716	342	8164	88	22	438
AFRICA	1233 (7.4%)	61 (2.8%)	46505 (41.9%)	50 (1.6%)	4 (0.3%)	758 (5%)
Morocco	776	31	37875	20	1	514
Rest of Africa	457	30	8630	30	3	244
NORTH AMERICA	1889 (11.3%)	298 (13.6%)	3239 (2.9%)	251 (7.9%)	38 (3.5%)	592 (3.9%)
USA	1552	246	2464	196	30	441
Rest of North America	337	52	775	55	8	151
CENTRAL AND SOUTH AMERICA	6958 (41.8%)	550 (25.1%)	26885 (24.2%)	416 (13.1%)	40 (3.7%)	2071 (13.8%)
Argentina	3671	266	8654	145	14	623
Chile	317	40	2025	28	5	127
Peru	615	55	4212	29	1	129
Dominican Republic	366	7	4565	27	0	121
Rest of Cent. South Am.	1989	182	7429	188	20	1071
ASIA	954 (5.7%)	435 (19.9%)	12280 (11.2%)	76 (2.4%)	11 (1%)	424 (2.8%)
China	88	13	3870	2	0	14
Philippines	104	7	3736	3	1	85
Japan	306	304	1098	14	1	48
Rest of Asia	456	111	3576	57	9	277
OCEANIA	78 (0.5%)	5 (0.2%)	125 (0.1%)	37 (1.2%)	23 (2.1%)	0 (0%)
TOTAL (% over the work permits in each system)	16666 (15%)	2188 (2%)	110892	3163 (20.8%)	1094 (7.1%)	15070

c) *Destination*

According to the latest studies on general immigration in Spain, seven provinces contain 7 out of every 10 foreigners in Spain: Madrid, Barcelona, Málaga, Alicante, the Balearic Islands and the Canary Islands. The distribution layout reflects the economic strength of the first two and the tourist nature of the others. Other important provinces show their proximity to Portugal and Africa, both sources of emigration. This distribution can also be seen when analysing skilled immigrants in 1991.

As for the more heterogeneous category of professionals and technicians, their distribution throughout Spain reflects the huge importance of Madrid and Barcelona as a result of a more international economic dynamics: 38.6% and 14.7% of the total, respectively. The remaining provinces draw the basic lines of Spanish economic sectors from the industrial provinces of the North to the Ebro corridor, towards the South East, ending up in the industrial and services economy of the Mediterranean coast. The two island groups also show the importance of their tourist and service economies. The seven most important provinces contain 67% of the total number of professionals.

The distribution of management staff, regardless of which system they belong to, either general or EC, is a faithful copy of the above situation, but with a greater predominance of the two largest cities, Madrid, (45%) and Barcelona (19%), and a clear decrease in most other provinces. The higher the specialization of the members and the closer the relationship to their company headquarters condition the concentrated nature of their distribution. However, the seven provinces with the highest number of immigrants in management positions, together contain 80% of these.

d) *Demographic and economic features*

As opposed to traditional immigration for economic reasons, which is still not settled and contains a high number of males, skilled immigration maintains the same trend, although the distribution by sex shows a greater female presence (Table 3).

The percentage of women is almost a third in the overall number of work permits. The reasons found for this general process stress the larger presence of females among workers in the service sectors (either skilled or unskilled), and the incorporation of skilled independent women into movement unrelated to the family institution.

As regards *age*, it is also a fact that immigration is fairly young, and this is also true, to a certain extent, in skilled immigration. However, ages are usually higher in the skilled immigrant population as a result of the skills they have to acquire before moving: over 83% of skilled immigrants in the General System are adults (as opposed to 77% among all the work permits in that system). In the EC System, these figures are even higher (86.8% as opposed to 82,8%).

As regards *economic features*, the first important fact is the high percentage of workers in the service sector, taking into account the total number of permits granted.

Table 3 – *Demographic and economic features of skilled immigrants*

	General System		EC System	
TOTAL	111017		15123	
TYPE OF WORK				
Employees	97806	88.1	15123	100.0
Self-employment	13211	11.9		
SEX				
Male	74745	67.3	9958	65.8
Female	36272	32.7	5165	34.2
ECONOMIC SECTORS				
Primary	13121	11.8	424	4.5
Secondary	9926	8.9	2380	25.2
Building	14329	12.9	843	8.9
Tertiary	72950	65.7	5490	58.2
BRANCHES OF ACTIVITY				
Agriculture	13121	11.8	424	4.5
Mining	476	0.4	514	5.4
Industry	9450	8.5	2380	25.2
Building	14329	12.9	843	8.9
Trade	26126	23.5	2189	23.2
Transport	6082	5.5	468	5.0
Business services	9023	8.1	1162	12.3
Administrative services	11629	10.5	1348	14.3
Domestic services	20450	18.4	323	3.4
Other	691	0.6	299	3.2
DURATION				
Until 3 months	6580	5.9		
3 to 9 months	8647	7.8		
9 months to 1 year	91178	82.1		
1 a 3 years	62	0.05		
Over 3 years	4550	4.1		
AGE				
Under 20 years	2924	2.6	332	2.2
20 to 24	20005	18.0	1442	9.5
25 to 54	85494	77	12522	82.8
Over 55	2594	2.4	827	5.5

As mentioned above, skilled immigrants come mostly from the EC, the USA and Japan, and the connection between professions, activities and origin can be seen. Over 80% of the work permits granted to British immigrants in the EC System were for work in the service sector (93% in the General System). Similarly, this occurs with the Japanese (68%) and Americans (85%). On the other hand, the Portuguese who work in the service sector make up 33% of the EC System, and 49% of the General System, while Moroccans make up only 41%. It would be logical to assume that these figures reflect the difference in skill and qualifications between the workers to whom these permits are given.

Considering *branches of activity*, it can also be seen that there is a greater predominance of workers in industry, and business services and administration. This is obviously associated with professions requiring greater skills and with the permits given to EC System workers, who are mostly from the more highly developed EC countries. On the other hand, comparing the General System permits with those in the EC System, there are more workers in agriculture, building and personal or household services. Most of these are lesser qualified immigrants from Third World countries (Morocco, China, the Philippines, the Dominican Republic), and other Latin American countries or Portugal.

4. *Conclusions*

Finding out about the immigration of skilled workers in Spain is not an easy task as a result of the objective facts which are to a great extent inherent in the process of data collection. But the ever-increasing interest about this type of population in Spain compels us to make several suggestions for future research efforts:

a) As a result of a tighter definition of the concept "skilled immigrant", it is necessary to achieve as full a typology as possible of these migratory types, in order to make international comparisons.

b) The limitations of official sources for studying skilled immigration is a well-known and generalized fact, not only in Spain. It would therefore seem essential to make progress in the design and use of new data sources which would overcome the limitations of official sources. Surveys or data prepared for specific research projects are usually very valuable for this purpose.

c) In contrast to many surveys on immigration in Spain, which are based on an assessment of the number of immigrants, it would be more suitable to make an in-depth study of the socio-economic and other determining features of this migratory group (their relation to multi-national firms, types of scientific and technical cooperation, spatial dimensions to do with movement of capital, the human factors and family structures).

d) One of the least analyzed aspects in immigration surveys, i.e. reasons for migrating, should be considered fundamental in the effort to identify the reasons which force populations to emigrate, even if it is a very specific type of migration. The two intervening factors should be analyzed: the workers' own motivation, and the general living conditions in the country to which they emigrate.

e) From a geographical point of view, using the host country as a reference framework, it is customary to examine the consequences of immigration. The "invisibility" of skilled immigrantion has already been pointed out, but this does not mean it has no effect on the host society. Some effects should be thoroughly investigated, such as the effect on the housing market in the area in which immigrants settle, the social networks they create, their standard of living compared to that of the native population, etc.

Finally, although skilled immigrants in Spain make up a very small proportion of the whole foreign immigrant population, studying them is extremely important in the context of the economic, social and political networks which are being created every day between developed countries and, in particular, between the EC member states.

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Migration of educated Finns to Western European countries

1. *Introduction*

Migration of the highly educated is seen as important in both sending and receiving countries. From the point of view of the national economy the question is the transfer of human resources from one country to another. If the labor market of a receiving country needs the skills of potential immigrants, the demand for immigration increases. Because of the restrictive immigration policies of western post-industrial countries, this demand factor has become one of the most important factors regulating international migration. The selectivity of international migration has increased rather than decreased in the last two or three decades. For instance, the European countries have practically closed their borders to traditional permanent migrants outside the European Community since the beginning of the 1970s. Only selected occupational groups have been allowed to enter. Major immigrant groups have consisted of refugees, asylum seekers and family members still living in their home country. These developments are likely to create heavy migration pressures with no good channels through which it can be alleviated.

From this point of view, Finns have traditionally been in a better situation. Industrialization in the latter half of the 19th century rattled traditional social and occupational systems and uprooted a great part of the rural population – and created strong migration pressure. However, the migration pressure easily found its way to disperse. Many people moved to the rapidly growing industrial cities in the southern part of Finland, and more people went further on, overseas to North America. The rapid social and industrial change of society in the 1960s and 1970s created waves of migration pressure. Now the other Nordic countries, mainly Sweden, offered a conduit for pressures to taper off. The single Nordic labor market (Finland, Sweden, Norway, Denmark and Iceland) since the 1950s have made it possible to move freely from one Nordic country to another without any formal barrier. Accordingly, migration pressure ended up in notable flows of migrants from Finland to Sweden (see Kultalahti 1993 and 1994).

Both of the above mentioned emigration waves were typical mass movements caused mainly by push factors being created by thorough and rapid changes of society. Demand factors of receiving countries did not play a particularly important role in emigration, in contrast to the recent regular emigration in Europe as well as in many other countries. Demand factors strengthen the selectivity of international migration by weakening barriers to move for population groups needed or wanted in receiving countries. This was not the case in the emigration waves from Finland described above, since the selectivity of migration flows was not very pronounced. Instead, push factors made the characteristics of internal and international migrants more or less similar (see: Söderling, 1983 and Kultalahti, 1993). This can also be seen in more recent emigration flows to Sweden which are not as large in number as they were around the turn of the 1960s and 1970s (see Korkiasaari, 1987 and Kultalahti, 1994).

Recent internationalization and the development of information technology have probably created migration pressures among many groups in Finland. This is particularly true during the present economic recession which is associated with strong structural changes in the labor market. However, unemployment rates have been high all over in Europe and in many other countries too, making it very difficult to find a job either in the home country or abroad. In this situation, specialized people in certain fields of education have the best opportunities to find a new job and move. Hence the selectivity of migration increases.

In this paper, the focus will be on Finnish emigration to the European Union and its member countries. Finnish emigrants with vocational or university education aged 18-64 are included in the empirical analyses.[1] Those with primary education are excluded.

2. *Development of emigration from Finland*

Traditionally, Finland has been a country of emigration. Immigration has never played any significant role in the population growth. Over a period of a hundred years more than a million people have emigrated from the country, and, according to some estimates, one third of them returned after a shorter or longer stay abroad. In the 1980s, there has been more or less a balance in international migration. In the last few years the number of immigrants has exceeded that of

[1] The available Finnish data provide a good opportunity for mapping international migration flows. The Central Statistical Office of Finland collects information from various registers, such as population census, and migration and labor registers. Migrants can be monitored by place of origin and destination. Demographic data on sex, age, education and occupation, for example, are also available. The data files can be integrated for research purposes by using social security numbers. (Individual privacy is ensured by deleting the social security numbers before submitting the integrated files to researchers.) In this study, the data of migrants cover all international moves from and to Finland in 1987-1992. The proportion of international migration (emigration and immigration) of total migration (international and internal) ranges annually from eight to twelve per cent. The migration history of each migrant has been monitored during the period of 1987-1992. For the purposes of the study, only Finnish migrants aged 18-64 were included in the data.

emigrants. Finland has changed from being a sending country to being a receiving country. Earlier the flows of immigrants consisted mostly of Finnish returnees but recently immigrants with foreign citizenship have become the majority.

The migration flows between Finland and Sweden were at their greatest around the turn of the 1960s and 1970s. At that time as many as 40,000 Finns migrated to Sweden annually. Some of them returned a few years later but there was still a high net out-migration to Sweden. A significantly large number of the migrants came from rural areas and from outside the southern part of Finland. They were not particularly well educated, and in many respects they resembled the traditional migrants of older times (cd. Soderling 1983). Many of them were so called permanent migrants who were compelled to leave because of real or impending unemployment. All these are features related to migration outside the labor markets of the major Finnish companies. By 1990, the migration flows to and from Sweden still accounted for about two thirds of total international migration. To a certain extent also, the migrants still resemble the old-time migrants (Kultalahti 1993). However, many of these were "quick returnees" who came back to Finland within a year.

In 1987-1992 about 20,000 Finns with vocational or university education aged 18-64 emigrated (Table 1). Most of them (about 60 per cent) went to Sweden, the European Union and the group, "other countries", received each about 20 per cent of the rest of emigrants. The distribution of educational groups varies from one destination to another. In relative terms, the EU received the most educated and Sweden the less educated. Every fourth emigrant to the EU had a university degree while only every tenth to Sweden had reached the same level of education. In addition to this, the emigrants with long vocational education were the largest majority among the emigrants to the EU.

Table 1 – *Finnish emigrants (aged 18-64) by destination and level of education 1987-1992*

Level of education *	Destination			Total %	N
	Sweden %	EU countries %	Other countries %		
Short vocational education	38	15	20	30	5798
Long vocational education	51	60	57	54	10593
University degree	11	25	23	16	3250
Total	100	100	100	100	
N	11728	4073	3840		19641

* Short vocational education = less than three years vocational education after primary school (together about 10-11 years education).
Long vocational education = 3-5 years vocational education (together about 13-14 years education).
University degree = B.A., M.A., Ph.D or equivalents.

Figure 1 – *Finnish emigrants (aged 18-64) to Sweden by year and level of education*

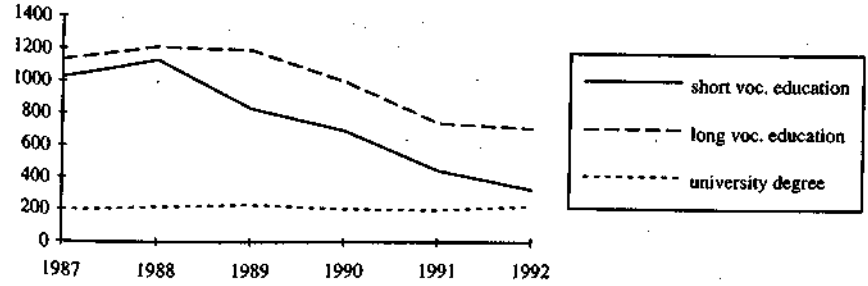


Figure 2 – *Finnish emigrants (aged 18-64) to EU countries by year and level of education*

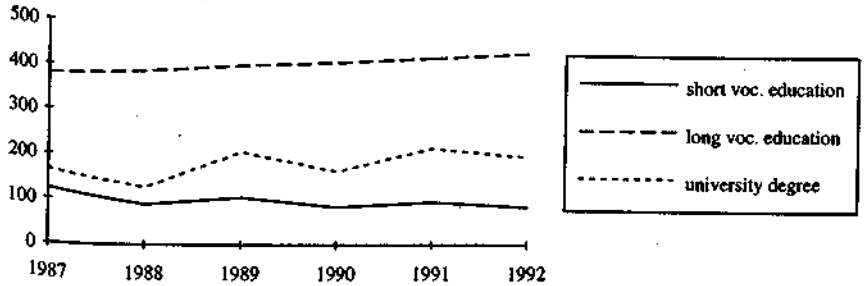
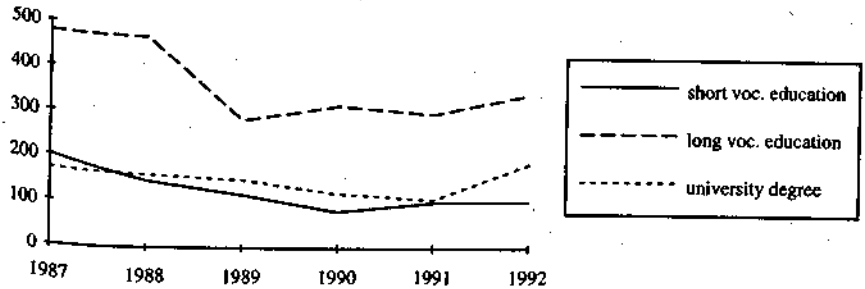


Figure 3 – *Finnish emigrants (aged 18-64) to other countries by year and level of education*



Source: see footnote in Table 1.

Investigation by year brings up some interesting features (Figures 1-3). The curves describing the development of number of emigrants in each educational group shows sustained declining trends of emigrants with only a short vocational education. The selectivity of emigration increases. Rising unemployment rates of the labor markets in Europe as well as in many other countries in the 1990s seem to offer immigration opportunities only for educated and highly skilled people. Their number and particularly their proportion has increased greatly. This can be seen most clearly in emigration to the EU. It looks as if in spite of growing unemployment in the countries of the EU, an increasing number of educated Finns have managed to find a job in European labor market. It should be noted that the data file does not give information about whether people emigrated for a new job or for other purposes. However, clear differences between the EU and other destinations from a basis for the assumption of the importance of jobs available for the most educated.

In the following tables there will be information about Finnish emigration to individual EU countries. The aim is to map the region of the EU as a migration field of educated Finns.

3. *Emigration of educated Finns to EU countries*

The EU region is very heterogenous in terms of culture, industrial structure and standard of living. This means that the demand for immigrants varies from country to country. Certain southern countries are attracting retired people, other countries offer opportunities for career enhancement, and so forth.

Table 2 presents information about Finnish emigrants to the individual EU countries by education. Particularly Belgium and, to a great extent, also France and Luxembourg attract migrants with university degrees. It may not be surprising that, in these countries, there are the headquarters of the EU administration. The data available do not give information on the influence of this administration on the destination of the above-mentioned educated Finns but obviously it has at least some influence on the migrant flows. In addition to the countries listed above, Germany and the UK should be mentioned among countries attracting better educated migrants. This group of countries represents a destination of migrants with high qualifications in management and specialized tasks. Ireland also belongs to this group, but the number of migrants is so small that it does not give opportunities for interpretation.

Italy, Denmark, Greece, the UK and Germany form another group attracting particularly those who have had a long vocational education. These countries, probably with the exceptions of Greece and Italy, seem to be giving working opportunities to migrants with specialized skills with a high level of vocational education. Spain, Greece and Portugal are relatively often the destinations of migrants with short vocational education.

The results refer to at least three different bases for decision-making. First, the decision is based on educational and occupational factors; second, it is based on marriage; and, third, on retirement. There is some information on the main

activity being held before emigration, such as whether a person was employed, unemployed, a student or retired, at the end of the year preceding emigration. The role of marriage can only be assumed by using variables such as age and sex.

Table 2 – *Finnish emigrants (aged 18-64) to EU countries by level of education 1987-1992*

Destination (EU countries)	Level of education *			Total %	N
	short vocational %	long vocational %	university degree %		
Belgium	10	44	46	100	143
Denmark	13	64	23	100	793
France	4	61	35	100	291
Germany	12	59	29	100	932
Greece	24	63	13	100	131
Ireland	5	50	45	100	22
Italy	12	72	16	100	223
Luxembourg	14	54	32	100	69
Netherlands	13	50	37	100	206
Portugal	23	54	23	100	116
Spain	29	51	20	100	593
UK	9	64	27	100	554
Other	33	53	14	100	15568
Total	29	54	17	100	19641

* See footnote in Table 1.

The main activity is a variable indicating the type of main activity at the end of the year before moving, that is, whether employed, unemployed, student, retired or at home. The last-mentioned group also includes migrants with no data on the status of their main activity. Table 3 presents the distribution of Finnish emigrants by main activity and country of destination. Table 3 shows that half of the migrants belonged to the group "other" before moving, meaning that they did not belong to the labor force. One third was employed. This is understandable because migration often concerns the whole family, not only one member. In addition, some single women who married foreigners may belong to this group.

There are some interesting differences between migrants to different countries. Belgium differs from other destination countries. About two thirds of emigrants were employed at the end of the year preceding emigration, with the unemployed forming only a small group. This refers to the importance of occupational career in the process of moving.

Table 3 – *Finnish emigrants (aged 18-64) to EU countries by main activity 1987-1992*

Destination (EU countries)	Main activity					Total %	N
	employed %	unemployed %	retired %	student %	other * %		
Belgium	62	2	1	4	31	100	143
Denmark	36	3	1	9	52	100	793
France	38	1	3	9	48	100	291
Germany	32	2	1	8	57	100	932
Greece	32	4	–	5	60	100	131
Ireland	36	–	5	–	59	100	22
Italy	30	2	–	6	61	100	223
Luxembourg	48	–	1	4	46	100	69
Netherland	45	3	–	4	48	100	206
Portugal	50	3	8	3	35	100	116
Spain	35	2	10	2	51	100	593
UK	42	1	1	8	48	100	554
Other	35	4	1	11	49	100	15568
Total	36	4	1	10	49	100	19641

* At home or no information

Portugal is another country attracting people with a job preceding emigration. The administration of EU may rather well explain the popularity of Belgium as a destination of Finnish emigrants. Portugal is an example of a country where Finnish enterprises were located because of a local cheap labor force. Luxembourg and the United Kingdom are another type of migration destination. People moving to these countries were equally distributed between groups of employed and unemployed.

The third group is formed by the countries attracting people from outside the labor force. These countries are Denmark, France, Germany, Greece, Ireland, Italy and Spain. The great popularity of these countries among people who did not belong to the labor force before moving may be based on many factors, such as marriage, climate, jobs in tourism and restaurant and hotel services. The importance of climate is emphasized by the fact that those who moved to Portugal and Spain are mostly retired people (people who have taken early retirement or retirement due to sickness).

The distribution of emigrants by sex emphasizes the importance of marriage as an explanatory variable in migration decision. Finnish women marry foreigners more often than Finnish men. Table 4 shows that almost all (92 per cent) of the emigrants who went to Greece were women. The situation was about the same among those who moved to Italy (88 per cent). Emigrants to France, Germany, Ireland and the United Kingdom were not far behind, since the proportion of female migrants to these countries accounted for two thirds of all emigrants.

Table 4 – *Finnish emigrants (aged 18-64) to EU countries by sex 1987-1992*

Destination (EU countries)	male %	female %	Total %	N
Belgium	53	47	100	143
Denmark	44	56	100	793
France	34	66	100	291
Germany	34	66	100	932
Greece	8	92	100	131
Ireland	36	64	100	22
Italy	12	88	100	223
Luxembourg	52	48	100	69
Netherlands	29	71	100	206
Portugal	55	45	100	116
Spain	51	49	100	593
UK	28	72	100	554
Other	48	52	100	15568
Total	46	54	100	19641

Table 5 – *Finnish emigrants (aged 18-64) to EU countries by age 1987-1992*

Destination (EU countries)	18-29 years %	30-44 years %	45-64 years %	Total %	N
Belgium	27	59	15	100	143
Denmark	59	36	6	100	793
France	45	42	14	100	291
Germany	44	48	8	100	932
Greece	67	27	5	100	131
Ireland	36	64	–	100	22
Italy	59	34	8	100	223
Luxembourg	20	71	9	100	69
Netherlands	42	51	7	100	206
Portugal	20	47	33	100	116
Spain	24	32	44	100	593
UK	50	44	6	100	554
Other	61	32	7	100	15568
Total	58	34	8	100	19641

The importance of marriage is also supported by the large proportion of young migrants to these countries (Table 5). However, it should be noted that for example tourism, restaurant and hotel services may have offered jobs for

younger women in those countries. The data do not, however, give an opportunity to control their influence on immigration. In any case, the figures concerning sex and age of emigrants basically support earlier interpretations. Belgium and Luxembourg attract particularly people who are experienced in work but still are at sufficiently flexible age (30-44 years) to be able to accept demanding jobs abroad. The large proportion of the oldest age group (45-64 years) among the migrants to Portugal and Spain refers to migration of retired people (people who have taken early retirement or retirement due to sickness).

This is particularly true among the migrants to Spain.

4. *Discussion and conclusion*

The results presented above differentiate and enlighten the role of various countries of the EU as a destination of Finnish migrants. First, it is obvious that European integration and growing unemployment everywhere have strengthened barriers against moving from Finland to the countries of the EU. Increasing selectivity of migration comes up in growing numbers of highly skilled and educated migrants. This can be seen both in absolute numbers and in percentages. On the other hand, the results refer also to the fact that emigration flows to the countries outside the Nordic single labor market consist of a notable proportion of migrants outside the labor force, for example those marrying a foreigner or retirees. There are great differences depending on the destination country in question. The results of this study suggest that typical destinations could be found:

– Belgium seems to be quite clearly a destination of migration based on factors related to occupational and career aspects. Many of the migrants have a university degree, they were employed at the end of the year before moving, many of them were men, and they belong to the age group (30-44 years) which is particularly important for advancing in a career. Luxembourg resembles Belgium in this respect but it is not quite as clear an example as Belgium; Luxembourg more than Belgium, in relative terms, attracts people who were outside the labor force before moving and also women. The sex variable is of course ambiguous since a great number of female migrants may have motives strongly related to career and general occupational aspects.

– France, Germany and Denmark, and partly also the UK form the second group as far as destination of Finnish emigrants is concerned. The migrants can be characterized by a long vocational education, a high proportion of females and, before moving, economically non-active migrants. Age does not play any significant role among these migrants. The UK differs, to some extent, from the other countries in this group in the sense that the proportion of economically active and non-active people before moving were about as large. The motives to move to these countries are probably heterogenous ranging from motives clearly related to career and other occupational aspects to motives based on other factors.

– The third group is formed by countries which are the destinations of migrants whose motives are not strongly related to career and occupational factors. Some migrants have married a citizen of the country in question, go there to study or move for some other reason. Typical migrants were economically non-active before moving, young and female. Many of them had also a long vocational education. Greece and Italy can be mentioned as falling into this group.

– The rest of the countries of the EU form a more heterogenous group than the EU countries mentioned above. The Netherlands attracts women and migrants with university degrees, Portugal and Spain retired people.

The country groups presented above are based on a very rough classification. The groups are not as homogenous as they may appear. There are all kinds of migrants for each country. However, the formation of groups is based on the differences between destination countries and some conclusions are better justified than others. The aim of a classification like this is to give some tools to estimate potential influences which European integration may have on migration flows in the future. For example, international changes create different migration pressures depending on the motivational basis of potential migrants. Membership of the EU removes formal barriers and creates, at the same time, demand for a great number of educated and highly skilled people. However, this kind of migration pressure has clear channels to follow. Changes in the labor markets cannot as easily be seen but still their influence on migration flows can somehow be foreseen. What about the influences of European integration on other kinds of migration flows? This question demands a different approach.

Membership of the EU is not expected to have any dramatic influence on international migration flows from and to Finland, as it has not had between the present twelve EU countries. However, it has some influence on migration flows: on the analysis of factors creating migration pressure, shaping obstacles preventing people from moving and directing flows. This means that the focus must be on the changes of potential sending and receiving countries and positions of various potential migrant groups in these changes.

The term migration pressure refers to the ratio of migration-minded people and the barriers preventing them from moving. An excessive supply of migration-minded people relative to migration demand in immigration countries produces migration pressure (Straubhaar, 1993; Schaeffer, 1993). Migration pressure involves economic factors both at the micro or individual level and macro or aggregate level as well as other socioeconomic aspects. The terms internal and external changes (see Schaeffer, 1993) refer to the changes on the micro and macro levels. Internal changes include, among other things, completion of formal schooling or training and other important stages in life when aspirations and responsibilities and society's expectations of the individual change significantly. The relative frequency of migration is highest at such important junctures. External changes affect, in part, the availability and attractiveness of migration opportunities (Schaeffer, 1993).

The differentiation of the EU countries as a destination of Finnish migrants is interesting in terms of migration pressure. The countries which are important

from the point of view of career enhancement form a central channel for migration pressure to be alleviated. Hence it is reasonable to expect that European integration increase migration flows particularly to these countries. Belgium, Luxembourg and perhaps partly also France can be mentioned as examples. In terms of foreign trade Germany and the UK have long been among the most important countries, and it is reasonable to assume that their labor markets will play an important role for potential Finnish migrants. Perhaps migration between Finland and the third group of countries, e.g. Greece and Italy, will not be strongly affected by Finland's membership.

There are certain international trends which seem to lead to more and more selective international migration towards countries which are important from a career point of view. Technological development increases a demand for educated and highly skilled labor force. In spite of high unemployment rates, there are current and anticipated skills shortages in Europe which are a threat to its competitiveness (IRDAC 1992). In its report IRDAC says that there will be a need for a very significant reduction of unskilled workers and a much more highly skilled labor force.

Some forecasts are presented: in Danish industry, the demand for unskilled workers is expected to fall from 35% in 1980 to 10% in 2000; technicians need to increase from 10% to 30%, and management from 15% to 30%. Projections for Germany (West Germany) indicate a demand for a reduction between 1982 and 2000 of more than 3 million unskilled workers, to be compensated by 1.6 million additional higher education graduates and 1.3 million skilled workers (the unification of Germany is not taken into account in these projections). For the U.K., projections for the period 1988-2000 expect a 30% increase in employment for "managers and administrators", around 20% for professional occupations, and similar changes are needed in many other countries.

In Finland, there is a need for matching skills in such a way as to be similar to those in the countries presented above. These skills shortages cause pressures on the migration of skilled workers, especially those with higher education. As far as Finns are concerned, and also certain other nationalities, language may be an obstacle to emigrating for workers with secondary education. However, at present, higher education includes a good number of studies in the English language and, at least, in this language area obstacles are not likely to be very high. In other language areas, such as French and to some extent German, too, they are much higher.

All in all, the EU countries offer a very heterogenous destination to potential Finnish emigrants. It affects the directions of migration flows. As described above, there will be a demand for educated and highly skilled people in many European countries. Thus, European integration will likely increase the selectivity of migration processes.

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Forgetting skills at the borderline: foreign job-seekers on the Viennese labour market

1. *The changing influx of foreign labour*

Before 1989, the majority of migrants to Vienna came from south-eastern Europe (particularly the former Yugoslav republics) and from Turkey, and commuters from the adjacent regions of Lower Austria and Burgenland. This fact is very characteristic for the Viennese situation. Yugoslavs, in particular from the Republics of Croatia and Serbia, outnumbered the Poles almost sevenfold in 1988.

The immigration of classical guestworkers was begun in the middle of the sixties when there was a heavy demand for labourers within the thriving Austrian economy. Former Yugoslavia was the only country under communist rule permitting its citizens to go abroad. The migration process was bilaterally organized and most of the "guestworkers" were recruited in their country of origin. The basic concept and the policies of guestworker migration can be characterized by flexibility in terms of in/outmigration ("Rotationskonzept"). This wave of job-seekers was followed by a small number of relatives. As a consequence of the "oil-shock" of 1973/74 followed by years of economic recession, the number of Yugoslavs steadily decreased in the late seventies and early eighties, but the number of wives, children and relatives increased.

Table 1 – *Immigrants from Central and Eastern Europe registered in Vienna 1988-1992*

Year	Poland		Ex-Czechoslovakia		Hungary		Ex-Yugoslavia		Turkey	
	total	Index	total	Index	total	Index	total	Index	total	Index
1988	8,867	100	1,742	100	2,526	100	61,410	100	33,907	100
1989	11,322	128	1,977	113	3,372	133	68,332	111	39,026	115
1990	13,260	150	2,990	172	4,170	165	76,904	125	43,208	127
1991	15,891	179	4,060	233	5,159	204	91,447	149	46,858	138
1992	17,255	195	4,594	264	5,310	210	104,107	170	49,288	145

Index: 1988=100.
Source: City of Vienna statistics office, ADV-Magistratsdirektion

With 1989-90 as a turning-point marked by an upsurge in economic activity, the labour market situation improved attracting an increasing number of foreign job-seekers. As a consequence of the civil war, first in Croatia and then in Bosnia, a wave of refugees from these republics augmented the number of Balkanese foreigners in Vienna during the last years. The majority of these refugees, contrary to their compatriots coming in the 60's, intended to settle in Austria for a long time.

The Turkish workers and their families constituted the second most important group of foreign workers during the initial phase of the guestworker migration. Like the Yugoslavs, the Turkish workers were recruited mainly on the basis of enlistment contracts (the first with Turkey in 1964, followed by former Yugoslavia in 1966). But the demographic structure is completely different. Whole families migrated to Vienna and the concept of rotational population failed in the case of Turkish immigration.

The third most important group are migrants from Germany. They are definitely placed in another demographic structure, occupational profile and diversified role within the Viennese society. They represent the elite migration.

The migrants with the highest increase in their number are those coming from the neighbouring countries behind the former iron curtain. For over forty years, Austria was relegated to the edge of a geopolitical sphere. The fall of the Iron Curtain brought to an end this peripheral position. Austria's position within the framework of Europe's migration league table shifted from a marginal one to an attractive "gateway to the golden West" with a high attractiveness to migrants. But Austria still marks a boundary in Europe: one manifested in the deep gap between the developed national economies of the West and the transitional economies of Eastern Europe characterized by political instability, high unemployment and a lack of job prospects, particularly for skilled labourers. The Slovakian border is only a short distance of about 60 kilometers from Vienna. Within one hour one can change from a low-wage to a high-wage economy. Consequently it is not surprising that the inflow of labour force from Southern Poland, Slovakia and Hungary is increasing in importance. For the eastern parts of the country in particular, this means, among other things, that older patterns in east-west-migration have gained new prominence.

The total number of foreign workers in Vienna, who are not self-employed, rose from about 70,000 in 1988 to 105,000 in 1991 (i.e. from 9.4% to 13.2% of all non-self-employed workers). According to the Ministry of Labour and Social Affairs data, the figure of those who came from Poland, Hungary and former Czechoslovakia rose from 4,500 in 1981 to 23,000 in 1990. By 1992 their number increased to 32,000, a growth of almost 40% within two years. As a consequence of governmental policies oriented towards a rigid control of these flows and a policy of restrictions on the admission of foreign labour force, that number is now stagnating (1993: 99,087 unemployed foreign workers in Vienna).

The numerical dimension of the movement from Austria's neighbouring countries is shown in Table 1. Migrants from ex-Czechoslovakia constituting the smallest group in absolute numbers did nonetheless increase over two-and-a-half times; next came the Hungarians whose number more than doubled, while

Polish immigrants, being the most important group in total numbers, have almost doubled as well.

The present movement is predominantly one of worker migration, including unqualified persons and highly skilled migrants and caused by push as well as pull factors. Not only the number of migrants is rising; an increase in the number of commuters is observable, too. These come mainly from Slovakia and Hungary, live mostly in regions along the eastern parts of Austria and constitute a very new phenomenon for the Viennese labour market. Official statistics usually underestimate their number. A realistic estimate of daily or weekly commuters from abroad would be between 0.5 and 1% of Vienna's employed.

What is the main difference between the new immigration and the guest-worker-migration? One of several fundamental distinctions between the two groups is not mirrored in the motivation of the movement which is clearly one of economic improvement, but in the average level of education and the proportion of semi-skilled and highly skilled labour force. Whereas the overwhelming majority of Turkish and Balkanese migrants were and are poorly qualified – and this, with some provisos is also true for the second generation – the new migration from the ex-communist countries embraces a considerable number of skilled workers, i.e. nurses, teachers, medical doctors, technicians and experts within a wide range of professions.

A numerical analysis on the qualification structure of this group of labourers is not easy to undertake. The phenomena and processes described above can only be partially confirmed by labour market or migration statistics. There is a lack of "direct contact" with potential migrants, who are still in their home country or with those, who have already moved. Because of this lack of official data providing some basic information for answering questions such as: "who is coming to Vienna" and "what happens in the context of the urban labour market", a field research was necessary. For several reasons (i.e. accessibility, range of information, empirical evaluation), the analysis of newspaper advertisements is a promising method. It offers an opportunity to get a variety of information about foreign job-seekers no other source can give (for some methodological remarks: see Faßmann 1994, to be published in 1995).

2. *Data base and research question*

More than 6,800 advertisements of job-seekers in a Viennese advertising newspaper were analysed. The sample comprises all the advertisements appearing in the Thursday editions from July 1990 to September 1992, that had obviously been placed by foreigners.

One of the main targets of this study was to find out whether the structure of the advertisements anticipates the structure of the Viennese labour market. Do the job-seekers know something about their real opportunities? What about elite movement, its patterns, structures and numerical importance? In which way does skilled migration occur in the Viennese case, is it really brain drain and is it frequently transformed into brain waste? How do qualified or even highly-

qualified migrants evaluate their chances within Vienna's labour market? Do the advertisements mirror a "voluntary" adaptation to real demand? From a geographical perspective, what can be said about the expansion of the catchment area of Vienna's labour market?

In this paper we emphasize the importance of education in the migration process. Therefore we divide the persons who look for jobs into two groups: the highly qualified (18.5%) and the low qualified (81.5%). By breaking down the empirical results in these two categories we have tried to identify the effect on qualification.

3. *Empirical results of the analysis of job-seekers*

3.1 *Overall structure: country of origin and socio-demographic features*

Concerning the regional origin of job-seekers it turned out that most advertisements were placed by people from Poland, ex-Czechoslovakia and Hungary (84.4%), with ex-Czechoslovakia (43.4%) clearly dominating: three quarters are coming from the Slovak Republic and one quarter from the Czech Republic. In all, 72 different nationalities are recognized.

Former Czechoslovakia shows the highest share of highly-qualified job-seekers (21.2%), followed by Hungary (19.1%), whereas only 10.9% of all the migrants coming from Poland have higher qualifications. The comparison between the years 1990-91-92 shows a growing share of highly-qualified from Hungary, on the one hand, and a diminishing share of elite migrants from Poland, on the other.

In the Czech Republic, particularly the Moravian cities (from Brno to Ostrava in the north-east) stand out for the potential number of workers willing to migrate. In Hungary and Poland, too, most of the immigrants come from the urban centres with noticeably less willingness to migrate being shown by people in rural areas. The housing situation, notably the immobility of the rural population as a consequence of their ownership of private property, plays a considerable role in this context . Most of the Hungarian migrants hail from the small towns close to the border (Sopron, Szombathely, Zalaegerszeg) and from medium-sized and large towns across the country (Györ, Kecskemet, Debrecen, Budapest); the majority of Polish immigrants are moving from the urban centres of Wroclaw, Gdansk, Lodz, Krakow and Warsaw.

The analysis of the demographic features shows a smaller degree of age selectivity between the highly-qualified and the unqualified. Nonetheless, a diffusion process can be seen in the fact that selection by age was more marked in the first phase of the survey period than in 1992. As the search for jobs was obviously successful, other age groups – especially younger people – tried to follow this same promising path. This trend is also reflected in the men to women ratio: whereas men comprised two thirds of all job-seekers in 1990, this figure fell to about 50% in 1992.

Figure 1 – *The geographic expansion of the Viennese labour market*

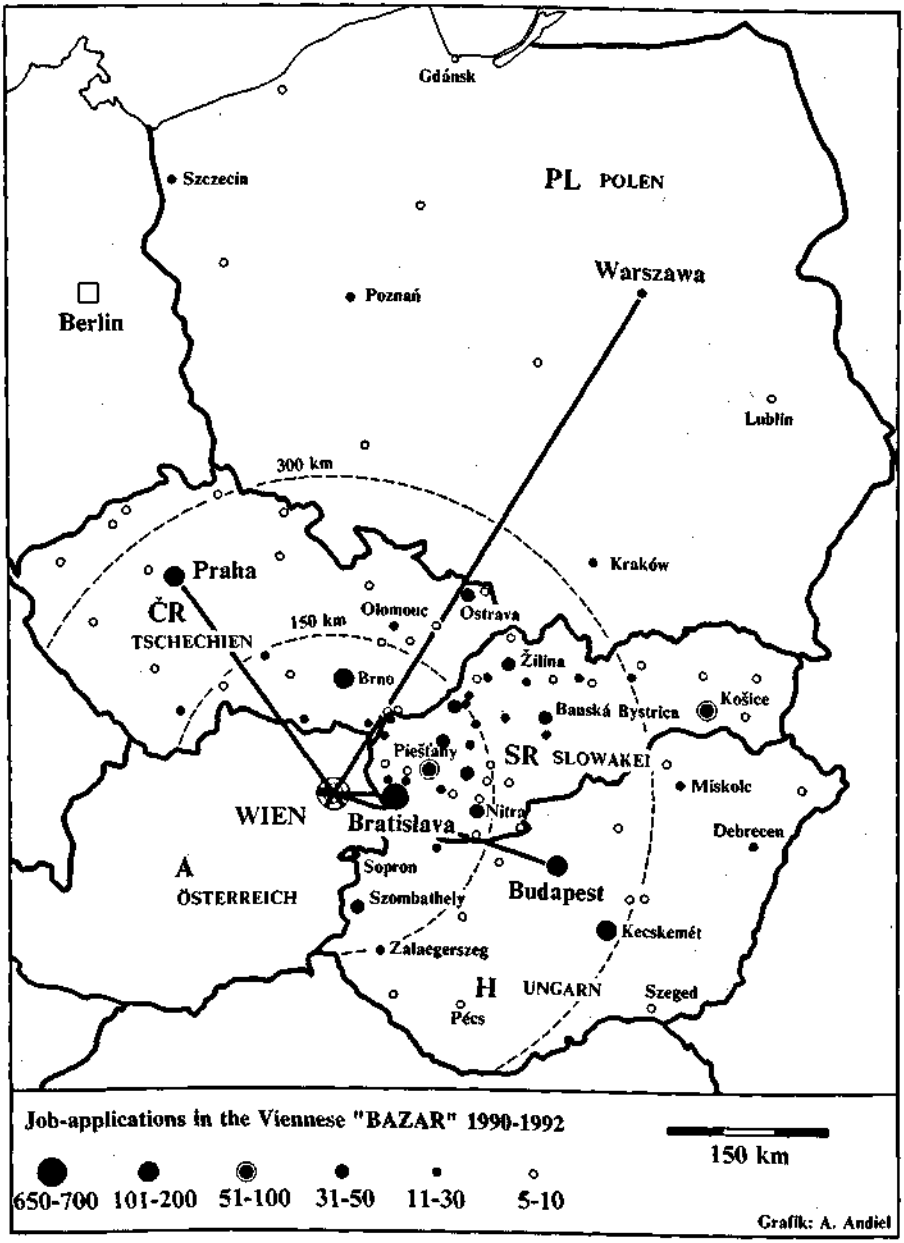

Table 2 – *Brain drain by nationality and gender*

	Men		Women	
	high qual.	low qual.	high qual.	low qual.
Poland	12.2	87.8	9.8	90.2
Ex-CSFR	18.8	81.2	27.1	72.9
Hungary	13.4	86.6	26.8	73.2
Others	21.8	78.2	21.8	78.2

The relation between sex and nationality shows a rather surprising distribution: the share of highly qualified women, looking for a job in Austria, amounts to 20.1%, while the share of equivalent male job-seekers is only 17.4%. Referring to national differences, it is striking that women from ex-Czechoslovakia and Hungary are clearly better qualified than those from Poland. Brain drain as a whole is more noticeable in the case of the feminine gender with 21.9% of the female migrants working in health service and 37.7% in education and research in their countries of origin. The explanation of this situation lies in the fact that young women face fairly tight labour markets in their native countries, pushing them to seek alternative employment opportunities across the border.

The high proportion of skilled women not only contrasts with their real prospects, but also with their consciously anticipated devaluation. Domestic service as housekeeper and nurse-maid alone offers them a range of job opportunities, reminiscent of the days of the Austro-Hungarian Monarchy when "going into service" was practically the only job available to a young woman, who had moved from the rural areas to the metropolis of Vienna.

3.2 *Migration strategies*

Newspaper advertisements present job-seekers trying to get a job on the Viennese labour market without the aid of a social network and, therefore, without the chance of acquiring information about actual job-opportunities. In this context, two possible, even if different, strategies can be observed:

– entering Austria and then looking for a job;
– looking for a job and then coming to Austria.

Table 3 – *Job-seekers by qualification and place of residence*

	High qual.	Low qual.
Vienna	30.4	40.2
Own country	64.7	56.3
Austrian federal states	4.5	3.3
Other foreign countries	0.4	0.2
	100.0	100.0

Highly-qualified job-seekers are more likely to choose the risk-reducing strategy of applying for a job while still residing in their own country (64.7%), whereas 40.2% of the less trained manpower have already moved to Vienna. The majority of job-seekers from ex-Czechoslovakia and Hungary prefer to place the advertisements while still living in their own country, while more than 80% of the Poles do so after having migrated to Vienna. Apart from the fact that Poles have a longer tradition of voluntary and very often involuntary migration, we have to take into account the geographical distance. For migrants from Western Hungary, Slovakia or Southern Moravia, Vienna is within commuting distance; that means in many cases they don't have to give up their place of residence saving a lot of social and financial costs. The Poles do not have this advantage. Because of the geographical distance there is no alternative: first they have to decide whether to migrate or not and only then look for a job in Vienna.

3.3 *Qualification and desired occupation*

The migrants' range of qualifications is rather wide. The skilled component consists mainly of secondary school graduates: 69.1% (512 job-seekers) have gone through general education, 28.7% a technical education and 2.2% economic studies. Of the university graduates, almost 50% have completed a technical college, while social scientists and graduates of human disciplines rank second. Physicians and economists are less likely to appear on the migratory scene (8.2% and 7.6%). Additionally, 29.2% of all migrants have served an apprenticeship or something similar.

Table 4 – *Former and desired occupation: the high and low qualified*

	Former Occupation		Desired Occupation	
	High qual.	Low qual.	High qual.	Low qual.
agriculture and forestry	1.5	3.5	4.7	8.7
building trade	0.2	17.5	2.0	6.7
metal working and processing	1.3	19.0	1.6	4.1
electricians	0.7	6.2	0.1	0.8
production	0.5	10.2	2.9	7.7
trade and transport	1.2	6.8	5.2	4.5
hotel industry	0.5	15.9	8.6	16.5
housekeeping	0.0	1.7	21.8	39.4
other services	0.6	2.7	20.5	5.8
technicians	25.3	6.1	9.2	1.4
administration	1.1	1.4	3.1	0.8
public health	16.5	4.4	11.8	1.5
education and research	50.2	3.8	8.3	1.9
other jobs	0.4	0.8	0.2	0.2
	100.0	100.0	100.0	100.0

Due to the structure of the advertisements, a comparison of qualification and desired occupation of the job-seekers is possible showing the extent of dequalification within the dynamic process of migration. Strangely, there is no substantial difference between the pattern of occupations to which migrants with high school diplomas and university degrees aspire and those being aimed at by less-qualified migrants. A little more than half of the skilled migrants prefer the services sector, catering or similar occupations. A further 20% believe they may have a chance in the health sector or as technicians. Making allowances that the content of the "desired" job cannot be determined a priori and given that nothing is known about the job eventually obtained, the observation remains valid that about 50% of the highly-qualified job-seekers have "voluntarily" anticipated and accepted a "brain waste" process.

For female job-seekers, in particular, one is able to identify brain waste on a larger scale. Once more it can be seen that women are more likely to undergo the process of dequalification. About 60% of highly-qualified women are looking for jobs in private households, for example looking after children, elderly people or handicapped or other services. Another 12% want to get a job in a hospital. All the other sectors are of no numerical importance. In comparison, highly-qualified male job-seekers show a wider range of desired occupations. The amount of optimism displayed is entirely dependent on the transferability of their qualifications. Accordingly, about one fifth of the technicians (19.7%) try to get a job which is compatible with their qualifications.

Table 5 – *Desired occupation of highly-qualified by gender*

	Female	Male
agriculture and forestry	0.5	10.6
building trade	–	5.1
metal working and processing	0.2	3.6
electricians	–	0.4
production	1.0	5.8
trade and transport	2.9	8.4
hotel industry	9.3	7.7
housekeeping	30.3	9.1
other services	30.3	5.8
technicians	2.2	19.7
administration	3.2	2.9
public health	12.2	11.3
education and research	7.6	9.1
other jobs	0.3	0.5
	100.0	100.0

Following the disintegration of labour markets in the postcommunist reform countries, the data analyzed above prove that their laborers' weak position leads to a rather pessimistic outlook, when estimating their occupational prospects

abroad. The process of gradual "voluntary" adaptation to real job-perspectives is particularly striking in the case of job-seekers already settled in Vienna. Clearly, to a larger extent than the potential migrants, this group has given up hope of employment compatible with their level of education.

The relationship between the job occupied in the country of origin and the desired occupation in Austria depends on the knowledge of the German language as well. 32,1 % of skilled migrants, especially the younger age groups speak German fluently. According to their language competence, job-seekers with better knowledge of German more often tend to ask for higher qualified jobs than people with little or no German. In the case of technicians and teachers especially, the desired occupational level rises along with their competence in German while medical doctors, usually expect a job in the health service regardless of their knowledge in German.

Table 6 – *Knowledge of the German language*

	High qual.	Low qual.
no German	3.8	8.9
a little German	63.4	69.7
good German	32.1	21.1
passive German	0.7	0.3
	100.0	100.0

3.4 *The main finding: anticipated deskilling*

According to our results, the brain drain from Eastern European countries is frequently transformed into brain waste once integrated into Vienna's labour market. In the case of elite migration to Austria, the loss is a double one. Primarily it is a loss for the sending countries, which have paid the educational costs for their qualified manpower and suffer from brain drain. After moving, this brain drain quickly becomes brain waste within a local labour market, often making no use of even the highest qualification. Because of this specific situation the term "brain drain" despite its being problematic, is more appropriate for the local situation than the more neutral concept of "skilled migration".

On the individual level, the job-seekers try to create an equilibrium between their own level of aspiration and real market demand. The process of adaptation to a realistic estimate of labour market perspectives is mirrored in individual cases, when the same person has advertised again and again. This succession of ads shows the successive lowering of aspirations or the progressive omission of qualifications. To cite two examples: a mechanical engineer, by the third ad, is prepared to take anything and no longer indicates his qualifications; and, a construction engineer who, after one year, is not only a year older, but has reduced his field of preferred jobs to domestic service and hotel work.

Figure 2 – *Anticipated dequalification*

26. 7. 1990
Experienced mechanical engineer seekes work anywhere in Austria. Basic German, perfect Russian, Czech and Slovak, category B driver's license. Tel. 0042838/.... or write to Teodor P.,,.... CS-92101 Piestany, CSFR.

9. 8. 1990
Mechanical engineer with experience in development and production seeks any kind of work anywhere in Austria. Category B driver's license, comprehension of German, Russian, Czech and Slovak. Tel. 0042838/.... or write to Teodor P., ... CS-92101 Piestany, CSFR.

30. 8. 1990
Will accept any job. I speak German and Russian and have a category B drivre's license. Tel. 0042838/.... or write to Teodor P., ... CS-92101 Piestany, CSFR.

11. 7. 1991
Construction Engineer, 40, Hungarian, seeking post in industry, design office or on site with company or private operator, available immediately. Basic German. Write to Mihaly N., ... H-6000 Kecskemet, Hungary.

3. 10. 1991
Hungarian construction engineer, 41, with basic German, seeks post in architect's office, public or private sector, available immediately. Mihaly N., ... H-6000 Kecskemet, Hungary.

4. 6. 1992
Hungarian man, intelligent, seeks work in hotels or domestic services, basic German. Mihaly N., ... H-6000 Kecskemet, Hungary.

4. *Conclusion*

The results fit very well into the theoretical framework of an ethnic segmentation of the labour market. The following point has to be emphasized: the integration of foreign labour within an occupational system is not a process of equal, but rather asymmetrical, distribution on all hierarchical and educational levels. Pre-selected labour market positions are allocated to specific ethnic groups. Fassmann and Münz (1992a) describe this phenomenon as the "ethnic segmentation" of the labour market. Since immigrants are prevented by formal norms and informal mechanisms – such as nationality, mastery of national language, cultural characteristics and gender – from gaining access to the protected primary economy, they are obliged to take insecure, unattractive and low-paid jobs in the secondary economy. The opportunity to get a job in the primary labour market is only offered to privileged or particularly competent immigrants. Illegal immigrants have to take any kind of job available. This segmentation proves to be an advantage for Austrian nationals because it ensures their professional advance and shifts the risk of unemployment onto foreigners.

Given the mechanism of a spreading migration willigness in the country of origin, on the one hand, and the limited capacity of absorbing, but with a far-reaching pre-selection of positions in the receiving country's labour market, on the other, it seems to be obvious, that, in the context of this process, deskilling

appears on a large scale. This process can be clearly verified on the basis of the data available.

So if asked, whether a real or potential inflow of qualified persons can be observed, the answer is definitely "yes". Differences in qualifications are thus largely ignored by the occupational structure of the receiving country. Successful integration into the Viennese labour market requires migrants to adapt to the demand which exists largely in the services sector, in the unskilled sector. The assumed model of a labour market segmented on ethnic lines is clearly confirmed. Varying by country of origin, significant differences exist in the assessment of job prospects and in the desired occupational level.

The global process of internationalization has already reached the Viennese labour market in the form of immigrants and streams of commuters from Austria's neighbouring countries to the East.[1] Since this development is expected to continue in the future, strategies for integrating immigrant workers are needed, taking into account the varying capacity of the local occupational system. This includes, wherever possible, the optimal use of the qualifications immigrants bring with them in order to counter the process by which the brain drain is becoming a brain waste on the Viennese labour market. A systematic migration and integration policy which avoids the massive dequalification of migrants within the frame of the labour market of receiving countries is one of the great challenges – not only for Vienna and Austria, but for Western Europe as a whole. The reality of immigration must advance even further into the collective consciousness and concepts minimizing the ensuing conflicts are also required. The building of a new Iron Curtain is no solution for solving these complex problems.

HEINZ FASSMANN JOSEF KOHLBACHER URSULA REEGER

Institute for Urban and Regional Research of the Austrian Academy of Sciences

[1] The causes of skilled migration are manifold: an increasing standard of education for both genders, the quite different development levels of national economies and their varying ability to absorb the highly qualified along with pure economic reasons as better income playing the main role for elites in deciding to leave their countries of origin. Usually for the skilled manpower the pull factors are much more important within the dynamic process of migration than the push ones and from the administrative point of view it is usually legal. Illegal migration more often occurs in the context of migration of unqualified persons.

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East-West and North-South brain drain: a comparison of the flows in Western Europe

1. *Introduction*

At the moment, Western Europe is at a cross-roads, a transit point for both East-West and North-South migrations. This is a development which is involving and posing new problems to mostly Germany, Austria, Switzerland, Italy and France.

In what is commonly referred to as the "South" as well as the "East", new forms of migration are emerging: more mobile, more middle classe oriented and, at times, including various forms of brain-drain. The competition battle between sending countries has become fierce, as they fight for the first position in the labor markets of western Europe, in order to benefit from their economic support and cooperation.

In the Maghreb, elites feel marginalised by the new spaces created by original trends in the making of Europe. Potential migrants from traditional areas are in competition with the "European preference" towards eastern flows: the suppression of visas for the Czech Republic, Hungary and Poland; the difficulty of Algerian intellectuals to be recognized as asylum seekers; the short-term unsteady statuses of Maghrebian mathematics and physics' teachers in France, recruited to offset the lack of French ones are but some examples. It must be noted, however, that informal networks are stronger in the South-North direction than in the East-West one.

Profound changes have not been wanting during the last five years (1989-1994). We wish to mention only a few: the fall of the Berlin wall, Maghrebian flows from mostly middle classes, Algerian intellectuals fleeing from the present Algerian crisis and new patterns of brain-drain and of elites.

With regard to brain drain or elite flows, it must be noted that the definition of a qualified and highly qualified migrant suffers from ambiguity and uncertainty, due to the heterogenous composition of flows:

– professionals and highly trained personnel of transnational corporations, whose migration moves are being decided by management. They enjoy a great

freedom of circulation and belong to the international elite crisscrossing the globe in all directions, while remaining highly invisible (John Salt, 1993a).

According to John Salt: "Around 60% of immigrants to and emigrants from the UK each year, who are in employment, are professional or managerial workers. Numbers of scientists, managers and administrators in the Netherlands increased by 40% (to 60.000) in the Netherlands between 1983 and 1989. In Finland, about 30% of foreigners are upper white-collar employees, compared with 13% of Finns" (John Salt, 1993b).

– students, whose mobility is granted and ensured by many countries, in spite of restrictions on their stay and access to the labour market;

– trainees, mostly youths, and, in accordance with bilateral agreements, allowed to work temporarily;

– asylum seekers, whose access to refugee status has been drastically limited over the last five years in France and Germany particularly;

As a result, the main flows of qualified and highly qualified workers and elites are more likely due to the expansion of international companies or to more informal networks (media world, business trade, cultural associations, islamic networks) than to individual aspirations, as it was mostly the case during the period of workers migration. They are the result of a wordwile division of labour linked to the restructuring of the world economy. Whether the skilled and highly skilled flows in Europe are going to increase in volume, will depend on a lot of factors. One must exercise caution about overestimating the limitless reserve of qualified people in the East or of the employment opportunities in the West.

In order to shed further light and compare East-West and North-South flows, it is planned to look at the world of migrants' imaginations and public policies regarding flows from the East and the South

2. *Migration imaginations*

From the mid eighties onward, a paradox has appeared on the horizons of people living in the South, locked in between the physical factor of "closed frontiers" (visas namely) and the mental proximity of Europe (media, family networks, cheap flights tickets, fashions...). Marketed or self-induced imaginations and dreams about western lifestyles and its unbridled freedoms, propagated by media and cultural mediators, frontier-men trying to build bridges between the Mediterranean basin and Europe, have become a daily diet for millions, while the new European space appears inexplicably both closed and hostile. The East, regarded in the past by some southern countries as an issue, now it has turned into a possible competitor.

Beyond some debates and discussions generated openly by the Euro-Mediterranean side, in its fictitious references to dialogue, cooperation, mutual development, neighbouring solidarities, cultural networking, the reality on the southern side is mainly focused on frustrations, hypothetical suppositions, security feelings.

On the other hand, in the East, one detects, mostly among middle classes, a desire for the West. The fieldwork, conducted by CERI in 1992 among East-West applications to migration in Poland, Romania, Bulgaria and Russia, as well as the survey conducted by the IOM reveal a feeling on migration which is derived from and fed by previous migration experiences. There is a basically initial dream towards France, Germany or the United States built on literary and philosophical knowledge or supporting references as strong as may be the disappointment resulting from a first migration failure.

Due to views prevalent in western countries on brain drain and on the whole range of middle class applicants, there is a will to set up diversification measures in relation to new comers. The result is the effort to avoid the importation of Islamic culture and to turn rather to intra-"European" flows. This is another dream which is not free from some doubtful implications.

3. *Migration flows*

The diversity in flows of brain and qualified people is very striking, to say the least. The East as well as the South have a migratory potential which is difficult to gauge. It is linked to socio-economic disequilibriums, to political uncertainties in countries of departure, to demographic disparities within the sending countries themselves. In both cases, the migrants' profile has been deeply changing as a result of rapid and recent structural evolutions in these countries: urbanisation, emergence of scolarised middle-classes without any hope of improvement of their situation, young people looking for adventure in the West.

What distinguishes most the qualified flows from the East and from the South is the intentional length of migration (mainly temporary from the East, rather long-term from the South), the growing pressure of refugees and asylum seekers.

Another difference between Eastern and Southern flows lies, in the South, in the absence of alternatives to migration while, in the East, the situation is often perceived by the applicants as being transitory.

In the absence of reliable criteria and informations, in the South, the brain drain migration is very difficult to quantify. The discrepancy of the sources is further exacerbated by the difficulty to define the "qualified": short or middle term migration under contracts or bilaterally recruited by international organisationsand\or firms, beneficiaries of study grants, students, professors in inter-university exchanges, institutional imams sent by the countries of origin, journalists.

Most of those who have come temporarily often aim to settle definitively, all the more so since the political context of their countries of origin is, in some cases, unsafe. Besides, the vast majority of them may be, as far as cultural learnings is concerned, western oriented. They often shun formal recruitment channels of Northern countries, who often do not produce figures on these migrations to avoid conflicts with their southern neighbours.

The countries of origin accuse the receiving countries to exploit the brain-drain exodus. At the same time, the "donor" countries may be able to free

themselves of political discontent and social unrest, while preserving some links with the North.

In the East, the messages conveyed by the "welcome" countries serve only to reinforce the idea of a very short (time-wise) experience. It is rather a short-term migration, a condition imposed by western countries in order to prevent a possibility which might lead to a definitive settlement.

Some case-studies conducted during the last three years reveal a good deal of convergence, in spite of the diversity of migratory situations:

1) The fear of the great wave coming from the East and threatening the West has not been justified simply because it has not happened, at least in France.

2) Eastern migrations as well as Southern ones are very diversified: brain-drain, middle class, technicians, low qualified labour force, matrimonial flows. But it is not so easy to differentiate economic migrations from highly qualified ones, because qualified workers are often ready to apply for very low qualified jobs, although it is in both cases an urban, young and graduate migration.

4. *Migration policies*

Even if, for western countries, the aims are the same towards East-West or North-South flows, the political discourses appear very different between the types of flows and their origin:

– in relation to the closure or opening of frontiers:

* for the migration of labour force and families, western countries are emphasizing measures aimed at the closure of borders, the stop of flows, and dissuasive and defensive policies;

* for brain-drain, the feeling is quite different: the tendency is to encourage mobility by keeping the borders open to give applicants the opportunity to come and go, without enjoying the privilege of a definitive settlement.

– in relation to cooperation:

* for the migration of labourers, international cooperation is often proposed as the remedy to limit their flows.

* for brain-drain, international cooperation is considered a tool to develop cultural and technological exchanges.

This contradictory stand between two different types of flows, namely: labour force and brain-drain and their perceived consequences (mobility or closing the borders) is also reflected in southern or eastern flows. As far as the East is concerned, if some policies towards qualified or highly qualified migrations are in place, we cannot observe the same attitude prevailing towards the South. The discourse remains the dissuasive closure of borders. The brain-drain from these countries or their qualified applicants are accepted only when they serve to fill, temporaily, existing vacancies on the labour market (hospitals, mathematics' teachers in secondary schools, computer specialists, dentists, technicians), and not as partners in an on-going dialog with the South. They are subjected to visas and short-term residence permits without any freedom of

movements, and are excluded from official policies dealing with international forms of mutual development and exchange of highly skilled personnel.

4.1 *Initiatives by OECD countries*

The OECD countries have taken, either individually or collectively – especially within the framework of the European Community (the PHARE, TEMPUS and TACIS programmes) but also under the auspices of NATO and UNESCO – a number of initiatives to promote the mobility of central and eastern European researchers, with a view to developing their scientific potential while, at the same time, preventing a brain drain. These initiatives are all fairly similar (C. Wihtol de Wenden, 1993).

The most common manner is to award grants to enable researchers to attend symposia or summer schools or to spend a few months in a laboratory in an OECD country. To cite only one example, since 1990 France has awarded 50 "post-doctorate" grants for a period of 10 to 18 months to junior researchers, and 500 grants for a maximum period of six months to senior researchers, a third of whom came from Russia and 20% from Poland. In 1992, the CNRS awarded 686 visiting research posts to foreign researchers, over 30% of whom came from central Europe. Austria has also started summer universities for central European scientists, and in 1991-92 Norway provided grants and exchanges for 607 researchers.

Another initiative yet is the twinning of laboratories. This is particularly common in France, which has been doing it for three years. For example, a dozen researchers from the Landau Institute in Moscow (specialising in mathematics and physics) are in Paris under a twinning arrangement with the Ecole Normale Supérieure (Rue d'Ulm). The two institutes now organise a joint seminar. France also has twinning arrangements with Poland and Romania.

Usually in the central and eastern European countries, excellent study and research centers are being set up to provide support to scientists. The Human Sciences Institute of Vienna, for example, is trying to reverse the brain drain by setting up such centres in these countries to return home. Several initiatives are underway; Austria is also trying to get under way similar research centres (to study demography, for example). The Netherlands has set up the Collegium Budapest to promote Hungarian science, and France has set up a science and technology foundation in Moscow to encourage researchers to stay in Russia. And the International Science and Technology Centre was recently set up in Moscow, following an agreement between the European Community, Russia, the United States and Japan, with the aim of helping Russian nuclear scientists find employment in civil sectors such as environmental protection, power generation, nuclear safety, biology, chemicals and aerospace.

Efforts are being made to promote the mobility of central and eastern European scientists and researchers, ranging from the establishment of a shuttle service for university students between Austria and neighbouring countries, to programmes for promoting mobility and exchanges, such as the so-called "hex-

agonal" initiative comprising Italy, Austria, ex-Yugoslavia, Hungary, the Czech Republic, the Slovak Republic and Poland. Under the numerous exchange programmes, there are certainly far more researchers coming to the West than vice versa. An effort is, therefore, being made to develop co-operative research programmes on topics of common interest or in one site or facility. An example of such a facility is the Lake Baikal Research Centre, situated on the edge of the lake, which has a unique ecosystem. A centre of this sort can act as a magnet for researchers from all over the world. Space research is another area that attracts western scientists to Russia.

4.2 *Different types of programmes*

All the various national initiatives have one characteristic in common: there are no centralised programmes but instead a wide range of initiatives by various ministries, research councils, specialised agencies, and so on, as well as by private foundations. For example, the Von Humboldt Foundation made it possible for 688 young researchers to come to Germany in 1991, including 190 from the former Soviet Union and 152 from Poland. The Volkswagen Foundation enables students to do practical work. Numerous scientific institutions (academies, associations, learned societies) run programmes, often with public funds. The universities are likewise involved.

This wide diversity of programmes is partly spontaneous, partly deliberate. It reflects a preference for initiatives taken by the scientific community itself, which is the best placed to know who is doing what, and to appraise the quality of researchers and teams. It also reflects a desire to encourage direct links between researchers so as to by-pass structures which still survive from the former communist regimes.

Because there are so many different types of programmes – the result of a largely deliberate "bottom-up" approach – it is very difficult for East European researchers to obtain sufficient, and even less so complete, information about the various types of schemes that exist to facilitate mobility and co-operation, all the more so in that they lived for a long time under a system in which the flow of information was "top-down" and subject to political control. The existence of so many types of schemes also means that it is virtually impossible to form an overall picture of the effects being made by the OECD countries.

A number of unresolved questions have to be examined more closely, and practical measures expanded. First, what is the best way to develop co-operation with a view to facilitating the application of science to the needs of society, of the economy and industry in particular, in addition to co-operation on basic research? It is necessary to seek ways of creating stronger links between basic research and applications, and co-operation should be improved in this regard. Co-operative programmes can also help to modify the legacy of a system in which science was cut off from industry, and in which people knew virtually nothing about entrepreneurship and considered that knowledge was an end in itself.

Since it is necessary to go beyond the highly elitist aspect of current programmes (the so-called "Noah's Ark" approach), what steps should be taken to develop education and training new basic research personnel and for preserving and strengthening the scientific and technological culture of industrial and other managers? Although countries such as Germany are making an effort in this direction, it is felt that further efforts are required.

5. *Conclusion*

Since the dismantling of the Iron Curtain, emigration is no longer tantamount to exile. It is no longer a rupture. On the contrary, it is one of the main ways in which the countries of central and eastern Europe can join the international scientific community and enable their researchers to receive further training on the international circuit. Admittedly, it deprives these countries of a valuable asset but there are not very many other alternatives, if their reforms are to have any success.

Is it better to bottle up the skilled and highly skilled in the former Iron Curtain countries, waiting for time to take its course until substantial improvements occur, or are we to encourage, by the brain-drain migration, their mobility and training on an international scale? This dilemma is also applicable to the South.

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La mobilité des élites: une chance historique pour la Russie?

L'effondrement de l'empire soviétique et l'ouverture des frontières provoquent en Russie, depuis la fin des années '80, une vague d'émigration, qui recouvre une fuite des cerveaux dont témoignent toutes les données disponibles. Ces départs vident ce pays, qui avait un potentiel scientifique et technique de premier ordre, de ses élites au moment où il en a le plus besoin. Faut-il pour autant ne retenir de ce phénomène que ses conséquences négatives et estimer qu'il est contraire aux intérêts fondamentaux de cet Etat?

1. *L'exode des cerveaux, une réalité*

L'ouverture du rideau de fer s'est traduite par une forte poussée migratoire. L'ex-URSS perd entre 1987 et 1992 plus d'un million de personnes. Les statistiques disponibles, même si elles sont incomplètes et pas toujours fiables, jointes aux études et enquêtes faites vont toutes dans le même sens: cette émigration est de haut niveau. Ceux qui partent ou qui veulent partir, ce sont avant tout les jeunes et les "cerveaux", c'est-à-dire les scientifiques et plus largement les personnes qui ont un niveau d'instruction supérieur à la moyenne et/ou qui exercent des responsabilités.

Un tiers des personnes qui quittent définitivement la Russie en 1992 et 1993 (quatre premiers mois) ont moins de dixhuit ans.[1] L'âge moyen de celles qui, venant de l'ex-URSS, s'installent en Israël en 1992-1993 est de 34 ans. 70% de celles qui viennent du secteur scientifique et académique ont en 1992 moins de 44 ans.[2] Le nombre sans cesse croissant des étudiants des nouveaux Etats indépendants qui partent faire leurs études en Occident confirme le désir des jeunes d'aller à l'étranger.

[1] Statistiques du Ministère de l'Intérieur de Russie.

[2] *Immigration to Israël*, Ministry of Immigrant Absorption, Central Bureau of Statistics, Jerusalem (publication annuelle).

Le secteur de la Recherche et du Développement (R & D) est particulièrement touché par les départs. Si l'on en croit une étude faite pour l'OCDE en 1993 en Russie (qui abrite la plus grande partie du potentiel scientifique de l'ex-URSS), il a perdu plus de 500.000 personnes entre 1989 et 1991 et continue, depuis, à se réduire. Les autres restent cependant prudents sur la part des départs vers l'Occident.[3] Une autre étude faite en Russie chiffre, elle, à 70.000 le nombre de scientifiques russes partis depuis 1989 à l'étranger, ce qui représente près de 10% du total. Si on ajoute à ces départs ceux qui se sont faits vers des structures commerciales, en trois ans la science russe aurait perdu 37% de ses scientifiques et ingénieurs.[4]

La recherche n'est pas le seul domaine à être concerné. Sur les 28.000 adultes qui ont officiellement émigré de Russie au cours du premier semestre de 1993, 23% ont fait des études supérieures. Outre les scientifiques, il s'agit d'enseignants, de professeurs d'université, de médecins, d'ingénieurs et de techniciens, de chefs d'entreprise, d'artistes... Entre 1990 et 1993 (premier semestre), 120.000 scientifiques, ingénieurs, architectes, médecins, dentistes, artistes, journalistes, techniciens... ont quitté l'ex-URSS pour Israël.

1.1 *D'inquiétantes prévisions*

Si l'on en croit les résultats de nombreuses enquêtes faites en Russie comme dans les autres nouveaux Etats indépendants, cette hémorragie ne semble pas devoir se tarir dans les années à venir. Les intentions de départ, définitif ou temporaire, sont élevées dans toute cette zone. Les jeunes et ceux qui ont un diplôme universitaire sont les plus nombreux à se prononcer en ce sens.[5]

L'analyse des raisons des départs corrobore les résultats de ces travaux. La fuite des cerveaux est un phénomène complexe lié à la transition socio-économique et aux difficultés politiques et morales qui accompagnent celle-ci. La redéfinition des priorités au niveau national provoque, dans le secteur de la R & D, de sévères restrictions budgétaires. Le budget de l'académie des sciences de Russie a diminué, si l'on en croit l'OCDE, de 2,5 fois en termes réels entre 1990 et 1992.[6] 2,1% du PIB étaient consacrés en 1990 aux investissements dans la R & D (définis selon les normes OCDE); 1,5%, en 1991.[7] Pour les scientifiques, cette

[3] OCDE, Directorate for science, technology and industry, Committee for scientific and technological policy, *Science, technology and innovation policies - Federation of Russia - Background*. Rapport préparé par le Centre of Science Research and Statistics de Russie, 1993, p. 43.

[4] V. VALIOUKOV, S. SIMANOVSKY, *Brain drain from Russia: problems, prospects and ways of regulation*. Rapport présenté à la conférence organisée par l'OCDE à Vienne-Laxenburg les 18 et 19 février 1993 sur "East-West mobility of scientists and engineers".

[5] Voir notamment *Profiles and motives of potential migrants. An IOM study undertaken in four countries: Albania, Bulgaria, Russia and Ukraine*. Genève, janv. 1993, 198 p. Voir aussi les résultats ci-joints de l'enquête menée par L. Ledeniova.

[6] *Financial Times*, 13 oct. 1993.

[7] Etude ci-dessus citée de l'OCDE, p. 65.

situation signifie une dégradation des conditions de vie et de travail, la montée des incertitudes et le ternissement du prestige dont jouissait leur métier. En partant, ils cherchent à améliorer leurs conditions de vie et celles de leurs enfants, mais aussi à fuir des domaines sans avenir et à retrouver des points de repère.

Cette fuite ne s'arrêtera que lorsque l'ensemble de la situation politique et économique se sera améliorée et stabilisée, que les gouvernements pourront à nouveau investir dans les secteurs scientifiques et culturels, que des financements privés, nationaux ou étrangers, se dégageront, que les individus retrouveront un environnement et des perspectives qui les dissuaderont de partir ou de faire partir leurs enfants. D'ici là, l'exode des cerveaux est un phénomène pratiquement impossible à maîtriser.

1.2 *Un phénomène lourd de conséquences*

Ces départs sont préoccupants. La Russie perd les éléments les plus dynamiques de la société au moment où elle doit faire preuve d'inventivité pour mener à bien les réformes fondamentales qu'elle a entreprises.

Son potentiel scientifique, qui était hier son orgueil, risque de ne pas résister à ces événements. Le cercle devient aujourd'hui vicieux. Les départs entraînent une désorganisation des équipes, qui influe négativement sur l'efficacité de celles-ci et qui amène ceux qui restent à songer à leur tour au départ. La crise de la science met d'autre part en péril la constitution d'une relève. Les jeunes rêvent de tout, sauf de recherche. Ils étaient 3.500 à entrer à l'Académie des Sciences de Russie en 1989, 2.000 en 1990. Ils ne sont qu'un peu plus de 1.000 en 1992.[8] La science russe est autrement dit en train de s'autodétruire.

L'émigration vers le monde occidental n'est pas la seule responsable de cet état de choses. L' "émigration interne" est également très forte. Pour survivre, de nombreux scientifiques sont obligés de quitter la science pour se tourner vers ce que les Russes appellent "le business", c'est-à-dire vers des structures commerciales ou autres. Quant aux jeunes, ils sont attirés par des professions plus immédiatement rémunératrices.

Le départ de scientifiques qui travaillent ou travaillaient dans le secteur nucléaire constitue une source particulière de préoccupations. Ce que craignent de nombreux responsables, à l'Est comme à l'Ouest, c'est que ces spécialistes mettent leurs connaissances au service de pays jugés peu responsables de la communauté internationale, notamment du Tiers-Monde. Malgré les assurances données par les autorités russes, un certain nombre semblent bien avoir répondu à des propositions émanant d'Algérie, d'Inde, d'Irak, d'Iran, de Libye...[9] L'arrestation en décembre 1992 en Russie de "cerveaux nucléaires" au moment où ceux-ci s'embarquaient pour la Corée du Nord confirme la réalité de ce risque.

[8] V. VALIOUKOV, S. SIMANOVSKI, *op. cit.*

[9] V.I. GOLDANSKI, *Russia's "red-brown" hawks*, «The Bulletin of the atomic scientists», juin, 1993, pp. 24-27.

2. *Une chance pour la Russie?*

Si inquiétants que soient ces départs, leur signification est loin de n'être que négative. Elle doit tout d'abord être nuancée. Les chiffres des départs sont un révélateur certes important, mais imparfait. Le secteur scientifique était en effet artificiellement gonflé pour des raisons économiques (le chômage caché y était très important) et surtout politiques. Le changement de régime impose le départ de tous ceux qui avaient été recrutés selon des critères autres que scientifiques. La nécessaire décommunisation entraîne un dégonflement des effectifs, qui n'a que l'apparence d'une fuite des cerveaux.

L'impact des départs est en règle générale davantage fonction de la qualité (âge, position professionnelle, domaine d'activités...) que de la quantité des partants. S'il est difficile de savoir combien de personnes partent, il est encore beaucoup plus difficile de faire un bilan de leurs qualités. Celles-ci ne constituent d'ailleurs même pas le seul critère d'appréciation du préjudice subi au niveau national: celui-ci sera très important dans les secteurs prioritaires, il le sera beaucoup moins dans ceux où des reconversions doivent s'opérer.

2.1 *Le départ n'est plus un exil*

Juger des effets de la fuite des cerveaux sans tenir compte du contexte dans lequel celle-ci a lieu serait en outre une erreur. Les frontières sont maintenant ouvertes et cette donnée transforme la situation.

Le départ était autrefois une démarche radicale. Il n'y avait pas de possibilité de retour et, étant donné les très grandes difficultés de communication, la rupture était quasi totale. Ce n'est plus le cas aujourd'hui. Le droit au retour transforme la notion de départ. Il permet des allers et retours et donc la compatibilité de deux désirs bien compréhensibles, celui de quitter son pays tout en y demeurant. Séjourner à l'étranger n'implique plus d'émigrer. Emigrer n'implique plus de rompre avec sa patrie.

Deux enquêtes, faites en France en 1992 auprès de scientifiques et d'étudiants de la CEI,[10] montrent clairement que le départ n'est vécu ni comme un exil, ni comme un déchirement. Les interviewés gardent des contacts avec des collègues et amis restés sur place et ne sont qu'une minorité à ne pas vouloir repartir chez eux. La plupart d'entre eux ne sont pas venus en France avec l'intention d'émigrer et, tout en faisant un bilan très positif de leur séjour en France, ils n'ont toujours pas, quelques mois après leur arrivée, de projet en ce

[10] Enquêtes qualitatives menées au printemps et à l'automne 1992 auprès de 88 ressortissants de l'ex-URSS (50 chercheurs, 38 étudiants) présents en France pour une durée déterminée (quelques mois) par Anne de Tinguy avec la collaboration de Svetlana Kouprianova et de Tatiana Vichnevskaia. Ont été interviewés tous ceux qui ont accepté de participer à cette enquête. Il n'y a eu ni constitution préalable d'un échantillon représentatif, ni sélection des interviewés. Cf. ANNE DE TINGUY, *Le départ des cerveaux de la CEI en Occident: fuite ou mobilité? Enquêtes en France*, «Innovation, the European Journal of Social Sciences», (7), 2, 1994, pp. 177-189.

sens. Ce que beaucoup décrivent comme l'idéal, c'est de retourner chez eux et de revenir séjourner de temps en temps en Occident. Lors d'une autre enquête faite en 1993, le nombre de ceux qui souhaitent rester plusieurs années en France (ou ailleurs à l'étranger) augmente de façon significative, mais ceux qui ont un projet d'émigration restent une minorité (un sur dix).[11]

Cette attitude est probablement en partie liée à la politique de la France comme à celle des autres pays occidentaux: les possibilités d'installation y sont limitées. Mais elle est aussi et peut-être surtout liée au fait que ces individus, attachés à leur pays, n'ont nulle envie de choisir une solution radicale et que rien ne les oblige à le faire.

Analysé en termes de mobilité, le départ des élites n'apparaît plus du tout sous le même jour.

2.2 *La mobilité, une source d'enrichissement*

Le départ peut tout d'abord permettre à la Russie de sauvegarder une partie de son patrimoine scientifique et culturel. Il évite en effet à ceux qui travaillent dans des secteurs sinistrés de quitter la recherche. La fuite interne des cerveaux n'est pas nécessairement négative. Les talents sont parfois valorisés dans d'autres secteurs. Mais dans certains cas, les hommes, leurs connaissances et leur expérience sont perdus pour la science sans pour autant profiter à leur pays. Les départs vers l'Occident permettent l'établissement de coopérations dont certaines, notamment les jumelages entre laboratoires, ont pour objectif la survie des équipes de l'Est grâce à des travaux menés en commun, en partie en Occident et en partie sur place. C'est une formule que la France développe avec plusieurs pays de l'Est, notamment la Russie, la Pologne et la Roumanie.

La mobilité et les coopérations qu'elle engendre ont une autre retombée très positive: elle permet à la Russie de réintégrer la communauté internationale. Il est dans la logique de l'overture des frontières et de la fin de la guerre froide qu'après des décennies d'isolement et de repli sur elle-même, celle-ci retrouve sa place dans le monde. La quasi-totalité des scientifiques et ingénieurs interrogés en France en 1992 ey 1993 n'avaient jamais été en Occident avant la période gorbathévienne. Pour que des liens se recréent, la mobilité est indispensable. Fait significatif, dans la majorité des cas, un premier séjour à l'étranger est suivi d'autres en France et/ou ailleurs en Occident. Ce retour dans la communauté internationale se fera d'autant plus aisément que le secteur scientifique sera restructuré selon des critères qui sont internationaux. La coopération avec l'Occident est là aussi nécessaire.

La Russie a tout à reconstruire. Elle doit inventer les solutions qui lui permettront de définir un nouveau système politique, économique et social. Cette révolution exige une transformation des mentalités, qui ne peut s'opérer

[11] Enquête qualitative menée en mai-juin 1993, dans les mêmes conditions que les précédentes, par A. de Tinguy et S. Kouprianova. 62 scientifiques, ingénieurs et étudiants de la CEI ont été interviewés.

sans ouverture et confrontation avec d'autres cultures. Le passage à l'économie de marché implique ainsi une connaissance des mécanismes du marché, qui ne peut certainement pas être acquise dans les seules universités russes. Changer de modèle est un processus long, difficile, que, dans le monde d'aujourd'hui, un pays ne peut espérer réussir en se repliant sur lui-même. Vue sous cet angle, la mobilité des élites, loin d'être un handicap pour la Russie, apparaît au contraire comme un formidable atout. Le départ permet en effet aux scientifiques, aux étudiants comme à tous les autres cerveaux d'acquérir de nouvelles connaissances et expériences. Il est une source de dynamisation pour la science, l'économie et la société. Loin d'être perdus pour leur pays, ceux qui partent constituent le canal par lequel passera le changement et, à partir de là, le succès des réformes.

La mobilité débouche d'autre part sur la constitution de réseaux. Les enquêtes de terrain en France montrent que les chercheurs sont très nombreux à entretenir des contacts avec leurs collègues partis comme eux à l'étranger. Ils se tiennent au courant des déplacements des uns et des autre, même s'ils ne les connaissent pas personnellement, des travaux qu'ils effectuent, des postes qu'ils obtiennent et utilisent, à un moment ou à un autre, ces informations. Ils aident par ailleurs des compatriotes qui sont de passage ou qui arrivent en France. Des solidarités demeurent. De nouvelles se créent. Grâce aux liens et aux réseaux ainsi établis, des aides se mettent en place. Un cinquième des chercheurs interrogés en 1992 déclare apporter une aide financière à des personnes restées dans la CEI.

Les émigrés établis en France depuis plus longtemps ont les mêmes réactions. Les deux tiers des personnes interrogées lors d'une autre enquête faite en France à l'automne 1993 auprès des associations et représentants de communautés d'émigrás russes[12] aident, d'une façon ou d'une autre (envoi d'argent ou de médicaments par exemple), à titre individuel, des amis ou des membres de leur famille qui vivent en Russie. Plusieurs associations agissent de même. France-Russie apporte, avec le concours d'émigrés, une aide médicale et humanitaire à la Russie. L'Union de la Noblesse russe envoie depuis la fin des années '80 de l'argent à des églises orthodoxes de Russie. L'Action chrétienne des étudiants russes (ACER) a, elle aussi, noué des relations avec plusieurs paroisses...

Les initiatives prises ne relèvent pas toutes de l'assistance ou du commerce. L'évolution de l'hebdomadaire *La Pensée Russe* en témoigne. Créée par les premières émigrations, cette publication, au sein de laquelle les émigrés des années '70 sont très actifs, donne aujourd'hui la parole, ce qu'elle ne faisait pas autrefois, à de nombreux autres vivant en Russie, où elle est désormais diffusée. La maison d'édition YMCA-Press, dont le directeur, Nikita Struve, est un émigré de longue date, a, elle, lancé dès 1990 un programme d'expositions et de bibliothèques tournantes dans plusieurs villes de Russie et d'Ukraine.

Ces initiatives ne représentent que peu de choses à l'échelle de la Russie. Mais ce qui est significatif, c'est qu'elles se multiplient et que le phénomène

[12] Enquête qualitative faite en France à l'automne 1993 par Iana Streltsova dans le cadre du programme de recherches mené par le groupe "Migrations Est-Ouest en Europe" du CERI, FNSP, Paris.

observé en France existe vraisemblablement aussi dans les autres pays d'accueil occidentaux. En tissant des réseaux de liens entre la Russie, la France, les Etats-Unis, l'Allemagne..., les émigrés sont ainsi les artisans privilégiés d'une nouvelle relation avec l'Occident.

L'attitude des diasporas amène à se pencher sur un autre aspect de la mobilité des élites: celui des retours.

2.3 *Vers un retour des élites?*

Il est encore trop tôt pour juger de la réalité et de l'impact des retours de ceux qui sont partis depuis l'ouverture du rideau de fer. Ce qu'on peut par contre dès maintenant constater, c'est que les émigrés d'hier jouent dans les nouveaux Etats indépendants un rôle qui est loin d'être négligeable. Ils sont relativement nombreux à revenir, soit définitivement, soit temporairement, et à participer à la reconstruction de leur pays. Le plus célèbre des dissidents soviétiques, Alexandre Soljénitsyne, est revenu en mai 1994 en Russie: il est, depuis, très présent sur la scène politique, même s'il n'occupe aucun poste de responsabilités. En Arménie, un citoyen américain de 32 ans, Raffi Hovanissian, devient ministre des Affaires étrangères en octobre 1991. En Lituanie, lors des élections présidentielles de 1992, M. Brazauskas a en face de lui un homme de nationalité lituanienne, mais élevé aux Etats-Unis, Stasys Lozoraitis. Et un chirurgien qui vient des Etats-Unis, Kazys Bobelis, est élu président de la Commission des Affaires étrangères du parlement. En Estonie, Rein Taagepera, un émigré revenu dans son pays en 1988 après quarante ans d'exil, est candidat à l'élection présidentielle de 1992, où il obtient 23% des voix; un citoyen suédois, Jaan Manitski, en exil depuis la guerre, est nommé ministre des Affaires étrangères en mars 1992, un autre suédois, Hain Rebas, ministre de la Défense, et un général américain à la retraite, Alexander Einseln, commandant en chef des forces armées en mai 1993. En Lettonie, deux candidats aux élections présidentielles, Ivars Jerumanis et Gunars Meierovics, viennent des Etats-Unis. En Ukraine, un autre général américain, Nick Krauciw, est devenu conseiller des forces armées, et un professeur de science politique canadien, Bohdan Krawchenko, directeur de l'Ecole d'Administration d'Ukraine... D'autres sont très actifs dans la vie économique et commerciale de ces Etats.[13]

Pour exercer une influence, les émigrés d'hier n'ont pas nécessairement besoin de se réinstaller dans leur pays d'origine. Mstislav Rostropovitch en est un vivant exemple. Après seize années d'exil, il retourne souvent depuis 1990 dans son pays, auquel il consacre beaucoup de temps. Il soutient activement Boris Eltsine, en particulier dans les moments difficiles, lors du putsch d'août 1991 et en septembre 1993, après la dissolution du parlement.[14] Georges Soros, le puissant financier américain d'origine hongroise, est un autre exemple. Des

[13] *The Economist*, 21 août 1993.

[14] *Vetchernaia Moskva*, 27 sept. 1993 et *Argumenty i Fakty*, 39, sept. 1993.

Etats-Unis où il vit, il est très actif en Europe centrale comme dans les nouveaux Etats indépendants, notamment dans le domaine de la formation et de la coopération scientifique et culturelle.

La Russie sait que sa diaspora peut lui être très utile. Ce n'est pas un hasard si Boris Eltsine reçoit, lors de sa visite à Paris en février 1992, des représentants de la communauté émigrée, dont le grand-duc Vladimir Kirillovitch (décédé depuis), s'il téléphone, lors de son voyage aux Etats-Unis en juin 1992, à Alexandre Soljénitsyne,[15] si une commission chargée des relations avec les diasporas russes est créée au parlement sous la direction de Mikhaïl Tolstoï, un physicien de Saint-Pétersbourg, descendant d'une illustre famille russe...

3. *Conclusion*

Préoccupante parce qu'elle prive la Russie des éléments les plus dynamiques de la société, la mobilité des élites pourrait bien en même temps constituer pour celle-ci une chance historique. Elle lui permet en effet d'établir des liens privilégiés avec le monde extérieur, en particulier avec les pays les plus industrialisés. Ces liens facilitent la mise en oeuvre des réformes et de la réintégration dans la communauté internationale. La mobilité aura d'autant plus d'effects que les pays occidentaux sauront, par leurs politiques, la favoriser et la rendre dynamique et que la Russie saura utiliser les connaissances acquises à l'étranger par les migrants lorsque ceux-ci reviendront.

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[15] *Izvestia*, 16 juin 1992.

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Brain drain from Slovenia in the light of regional transitions

1. *Introduction*

Since 1989, Eastern and South-Eastern Europe[1] have staged unprecedented political and economic changes. "Real socialism" in the European part of the Soviet block and self-managed socialism in the second Yugoslavia have definitely collapsed. The socialist experiment in the communist part of Europe has not realized its main and so widely propagated goal. It assured neither a just and classless society, nor an effective and fast-growing economy which would be able to do away with backwardness and become competitive in an open market economy.

However, the end of a communist-inspired social engineering has not coincided with the change or transformation of East and South-East European societies into more or less normal democratic societies with a multiparty political system. The pursuit of one party system and the ensuing lack of democratic rules, the centrally planned economy with overwhelming majority of state's or social ownership, the lack of technical progress and other characteristics of socialist societies have left an indelible mark on the region. It will need a long transitional period for the transformation of people's attitudes and behaviours, as well as for the reform of the socialist institutions. Barring any political instability, ethnic conflicts and wars, I feel that the transitional period could last up to ten years, at least.

In perhaps more realistic terms, political instability seems to be the very likely fate of Eastern and South-Eastern Europe in the near or even more distant future. Causes of instability will stem from difficulties connected with the transition from a socialist to a market economy and from a totalitarian to a democratic political system. Massive poverty, unemployment and recurrent lack of food and other basic necessities will turn into a very dangerous and explosive combination.

[1] The term Eastern and South-Eastern Europe is used to indicate European part of former Soviet Union, Poland, former Czechoslovakia, Hungary, Rumania, Bulgaria, Albania and former (the second) Yugoslavia.

This presentation analyzes the brain drain from Slovenia in the light of regional transitions. The brain drain or skilled migrants will be defined simply as all international migrants with at least four years of post-secondary education.

2. *International Migration and Brain Drain*

Traditionally, Eastern and South-Eastern Europe have always been a region of emigration. During the period of transoceanic emigrations from Europe, the region participated especially in the period of "new emigration". But people from more eastern regions have also migrated in the opposite direction, mainly to Siberia (Malacic, 1993). Upon the consolidation of the Soviet regime, outmigration from the former Soviet Union ended after the World War I, while the emigration from other parts of the region continued. In addition, the change of immigration policy in the U.S.A. caused a shift of its direction, and continental emigration from the region became, in the course of time, prevalent.

In the second half of the 1940s, communist regimes came to power everywhere in the region outside the Soviet Union, and, as a result, emigration, to the exception of Yugoslavia and of other less important regions, came to a halt. The end of international migration in the region was caused mainly by ideological reasons. Communist propaganda had conducted a strenuous campaign to persuade domestic and international public opinion about the absurdity of emigration from the communist countries. In relation to movements with the outside world and even between countries inside the region, rigorous and straitlaced border controls came into force.

In spite of tight border controls, there has always been a trickle of brain drain, mostly intellectual dissidents, from the region. It is hard to estimate the number and basic composition of these flows.[2] Besides, occasional political crises in particular countries, like, for example, in the German Democratic Republic, in Hungary (1956) or in Czechoslovakia (1968), gave rise to important waves of emigrants. There have also been some very special types of emigration, like the Jews from the former Soviet Union and the Germans ("Aussiedler"), from Poland and Romania. It is interesting to remember that the former Soviet Union and Romania charged a high price on emigrants, due possibly to the high costs in the upbringing and schooling of very skilled emigrants.

The former Yugoslavia was the only country in the region which managed to break loose from the enforcement of policies throughout the East European Block in the late 1940s. It retained a one communist party system, but it introduced self-management and market oriented socialism, independently from the former Soviet Union. During the second half of the 1940s and of the early 1950s the migration situation in former Yugoslavia was similar to that of other

[2] Jean-Claude Chesnais estimated with the component method total net emigrations from Eastern European countries for the period 1946-1982 as follows (in thousands): German Democratic Republic, 3365, Czechoslovakia, 1973 (1570 in 1946), Poland, 1877, Bulgaria, 431, Rumania, 424, Hungary, 332, and Soviet Union around 500. However, it is impossible to get any data on the share of brain drain migrations (Chesnais, 1991).

parts in the region. From the middle of the 1950s the country began to gradually open its borders. In spite of the fact that the second (former) Yugoslavia became an important country of emigration to Northern and Western Europe, it is not easy to get statistical data on its emigration. This is partially explained by the changing nature of European flows in the period under consideration: from permanent to temporary emigration (guest workers).

According to Yugoslav official statistical data and also findings of experts, the biggest number of temporary economic emigrants from the country was around 1,1 million in the first half of the 1970s. Later, a smaller percentage of them returned home, while most of them decided to become citizens of a foreign country. Since the mid 1970s, Western and Northern European countries have introduced very restrictive immigration policies, thus reducing the intake of new emigrants from the second Yugoslavia.

Since the beginning of the 1980s, the migration condition in the whole region began to change gradually.[3] Poland was the first country which made access to passports a lot easier for its citizens. In 1989, Bulgaria allowed 300.000 of its Turks to leave. All in all, though, emigration from the region remained fairly sporadic and incidental up to the 1990s.

Till the 1990's, it is practically impossible to get any reliable statistical data on migration flows and much more so on the highly skilled from Eastern European countries. The only exception, at the time, was former Yugoslavia, where census data for temporary economic emigration on those years are available.

3. *Transition to the market economy*

In this paper, it is impossible to deal with the process of transition in detail. So, we will mention some basic features of its macroeconomic performance and the characteristics of its labor market.

The most important and common set of labor market characteristics for the above-named economies were: an officially proclaimed total absence of unemployment; a relatively low rate of wages' growth; small wage differentials across skills and industries; significant quit rates but low geographic mobility; high membership in the official trade unions; and the introduction of worker participation in enterprise management (Svejnar, 1992). In this context, it is important to stress the relatively high quality of the labor force in almost all countries of the region in question. The educational structure of the labor force in Eastern and South-Eastern Europe is comparable with that of workers in OECD countries (Boeri and Keese, 1992).

The principal data in table 1 are on the economic performance and on the labour market attributes in the following countries: Bulgaria, former Czechoslo-

[3] Estimated net emigrations for the period 1983-1988 are for Bulgaria 32000, Hungary 0 and Czechoslovakia 8000, for Poland (1983-1986) 86800, for Rumania (1981-1989) 181700 and for Soviet Union (1979-1989) 120000 (Chesnais, 1991).

vakia, Hungary, Poland, Rumania and Slovenia (1989-1992). Comparative data on industrial production, employment, real wages and unemployment are presented. Both the notes at the end of the table and the heterogeneity of sources warn the reader to be very cautious with the data. In fact, their quality is, for various reasons, precarious.

A brief consideration of the data presented in table 1 shows some basic patterns:

1. a rapid and uniform decline in industrial production, employment, and real earnings since 1990;
2. unemployment, hitherto unknown (Malacic, 1979), begins to surface in 1990, and thereafter escalates rapidly;
3. the transition came over more as a shock rather than it being understood as a gradual economic restructuring;
4. the decline has been more moderate in employment, so far, than in industrial production and real earnings;
5. and very importantly, it is practically impossible to see any sign of economic revival in the region up to now.

Bearing in mind the newly emerging possibility of emigration from the region, practically unknown in the countries of "real socialism" before 1989, the relatively low wages and their limited buying capacity in Eastern and South-Eastern Europe, the data in table I would suggest that the propensity to emigrate has grown dramatically during the years 1989-1992. This inclination is likely to be very prominent among the highly skilled section of the community. However, the realization of their migration intentions will take a longer period and will also be dependent on the relative openness of the destination countries.

4. *Brain drain and selectivity of international economic migration in Slovenia and other parts of former (second) Yugoslavia*

The second Yugoslavia was the only country in communist Europe with open borders and a sizeable international economic migration. The statistical data on Yugoslav international economic migration can be used as a basis for a detailed analysis of its highly skilled migration. Yugoslav statistical sources offer relevant data on temporary economic emigration.[4] In addition to the temporary emigration, there was also permanent emigration, which was of minor importance and size. And, anyway, it is impossible to get any detailed statistical data on it. In the later stages of Yugoslav emigration, the transformation of temporary migrants into permanent ones became more and more noticeable.

In this paper Yugoslav census statistics on international temporary economic migrations will be used. The census definition of a temporary economic emigrant was very broad. The main criterion, even in the cases of double citizenship, was the issuing of a Yugoslav passport.

[4] Yugoslav official statistics used an expression 'persons who temporarily work abroad' for temporary economic emigrant. In the period 1970-1990 such an expression became ambiguous, because of the transformation of migrants from temporary into permanent ones.

Table 1 – *Production, employment, wages, and unemployment in selected transitional economies*

Country and year	Industrial production (percentage change)	Annual change in employment (percentage)	Real earnings (percentage change)[a]	Unemployment rate (year-end)
		Bulgaria		
1989	– 1.1	0.2	2.3	–
1990	– 16.8	– 8.2	– 2.8	1.5
1991	– 27.5	– 17.1	– 33.8	10.5
1992	– 12.2	– 18.5[c]	+ 22.5	15.0
		Former Czechoslovakia		
1989	0.7	0.3	1.0	–
1990	– 3.7	– 2.5	12.5	1.0
1991	– 23.0	– 12.0	– 26.0	6.0
1992	– 13.7	– 22.4	8.1	6.8
		Hungary		
1989	– 1.0[b]	– 4.0	0.9	0.5
1990	– 9.0[b]	– 11.3	– 5.1	2.0
1991	– 21.5[b]	– 16.5	– 5.8	8.0
1992	– 9.8	– 1.0	3.9	12.3
		Poland		
1989	– 0.5	– 1.4	–	–
1990	– 24.2	– 8.9	– 37.2	6.3
1991	– 14.2	– 12.6	– 8.4	11.4
1992	2.9	– 5.5	– 1.88	13.6
		Rumania		
1989	– 6.6	1.9	2.4	–
1990	– 19.2	– 1.3	4.6	1.0
1991	– 13.0	– 18.7	– 24.9	2.2
1992	– 21.9	– 8.3[c]	– 15.1	8.4
		Slovenia		
1989	1.1	– 1.2[d]	37.5	3.2[e]
1990	– 10.5	– 4.3[d]	– 25.7	5.1[e]
1991	– 12.5	– 8.1[d]	– 15.2	10.1[e]
1992	– 13.2	– 6.7[d]	– 5.6	13.3[e]

Notes: [a] Real earnings for Bulgaria and Former Czechoslovakia; real wages for Hungary, Poland, Rumania, Slovenia and for all countries for 1992; [b] Firms with fifty or more employees; [c] First two quarters of 1992 as compared with the same period of 1991; [d] Employees only; [e] unemployed divided by the sum of employees and unemployed.

Sources: Jan Svejnar, op. cit., p. 161; National Statistics; Monthly Bulletin of Statistics, No. 7, 1993, UN, New York; Economic Survey of Europe in 1992-1993, UN, New York, 1993; Statistical Bulletin of Poland, Czech Republic, Slovakia, and Hungary, 1993/1, Statistical Offices of Poland, Czech Republic, Slovakia and Hungary, Warsaw, 1993.

Table 2 – *Indexes of migration selectivity (IS) in Slovenia (SLO) and the second Yugoslavia (YU) with respect to education in the years 1971 and 1981*

Education	Country	1971			1981		
		Migrants	Non migrants[a]	IS	Migrants	Non migrants[b]	IS
Without and 1-3 years of primary school	SLO	804	97846	– 75.4	401	51166	– 72.2
	YU	68174	4022954	– 59.3	49546	2874769	– 55.1
4-7 years of primary school	SLO	15696	412407	10.5	6842	319264	– 27.4
	YU	310063	6836128	9.5	221707	4323519	34.0
Primary school	SLO	14640	523727	– 18.7	13921	460061	2.5
	YU	133112	2414677	32.9	185098	3918333	23.3
3 years of secondary school	SLO	12849	217174	72.2			
	YU	111318	1403941	93.0			
Grammar school	SLO	517	29939	– 47.6	14997	488353	4.1
	YU	7793	32580	– 40.0	131521	4191772	– 18.6
Other 4 years secondary school	SLO	1685	70348	– 30.0			
	YU	20400	706113	– 30.2			
University	SLO	883	42478	– 40.0	1640	88333	– 37.1
	YU	10167	463414	– 46.6	15578	928340	– 56.1
Total	SLO	48086	1399858	–	41826	1415392	–
	YU	671908	16223985	–	625067	16236733	–

Notes: [a] Population 10 years of age and more; [b] Population 15 years of age and more.
Source: Yugoslav population censuses 1971 and 1981.

The temporary economic emigration from the second Yugoslavia was highly selective. In general, migration selectivity denotes the differences between characteristics of migrants and of the population from which they originate: the non-migrant part of the population.[5] And indices of selectivity with respect to education and particularly to university education will be taken into consideration. In table 2 the number of migrant and non-migrant populations, and indices of migration selectivity with respect to education for Slovenia and the second Yugoslavia in the years 1971 and 1981 are shown.

[5] Following procedure for obtaining of an index of migration selectivity is used in the paper:

$$IMS_i = \frac{\frac{M_i}{M} - \frac{N_i}{N}}{\frac{N_i}{N}} \cdot 100,$$

where $M_1, M_2, \ldots, M_n$ represent the distribution of emigrants with respect to certain characteristic and $N_1, N_2, \ldots, N_n$ represent the distribution of non-migrants in the country of emigration with respect to the same characteristic.

$$M = \sum_i M_i \qquad N = \sum_i N_i$$

i (= 1, 2, 3, ..., n) denotes the category under investigation.

Table 3 – *Indexes of migration selectivity (IS) in the second Yugoslavia by federal republics and autonomous provinces with respect to university education (U.E.) in the years 1971 and 1981*

Federal unit	U.E. and Total	1971			1981		
		Migrants	Non migrants[a]	IS	Migrants	Non migrants[b]	IS
Slovenia	U.E.	883	42278	– 40.0	1640	88333	– 37.1
	Total	48086	1399858		41826	1415392	
Croatia	U.E.	4429	117289	– 39.4	5718	225943	– 41.5
	Total	224722	3557222		151619	3486150	
Serbia proper	U.E.	2834	154640	– 28.6	4719	285182	– 52.3
	Total	114581	4397202		152932	4363193	
AP Voyvodina	U.E.	777	42579	– 48.0	1105	82728	– 55.8
	Total	60545	1627374		48078	1581419	
Bosnia and Herzegovina	U.E.	598	51282	– 83.3	1207	125952	– 79.5
	Total	137351	2760590		133902	2856233	
Macedonia	U.E.	417	32551	– 69.2	593	68106	– 81.1
	Total	5433	1233790		57962	1295984	
Montenegro	U.E.	168	11427	– 25.0	392	25722	– 35.5
	Total	7829	410343		9781	413982	
AP Kosovo	U.E.	61	11168	– 76.9	204	30045	– 78.8
	Total	24361	837606		28965	899488	
Yugoslavia	U.E.	10167	44634414	– 46.4	15578	928340	– 56.1
	Total	671908	16223985		625065	16236733	

Notes: [a] Population 10 years of age and more; [b] Population 15 years of age and more.

Source: Yugoslav population censuses 1971 and 1981.

Migrant and non-migrant populations are divided into seven categories, and only persons with an university education can be considered as highly skilled migration. The comparison between the indices of migration selectivity in specific educational groups in both countries, Slovenia and the second Yugoslavia, in 1971 and 1981, leads to the conclusion that there was no brain drain in the countries on those census years. If we understand indices of selectivity as a kind of propensity to emigrate, it is possible to see that highly educated people in Slovenia and the second Yugoslavia were less inclined towards emigration in the 1960s and the 1970s than the majority of other educational groups. Only a small group of people without any schooling or only with 1-3 years of primary schooling have, for obvious reasons, bigger negative indices of selectivity than a group of people educated at universities.

The absence of brain drain from Slovenia and the second Yugoslavia during the 1960s and 1970s is further confirmed on the basis of table 3. All indices of migration selectivity for university educated population in the second Yugoslavia

were negative for all federal units in 1971 and in 1981. It does not mean that there were no university educated people migrating. The numbers of university educated emigrants show a considerable loss of highly skilled people from the country. However, it is not possible to speak about brain drain from the country in this period. The propensity to emigrate was almost non-existent among the university educated population.

Because of the census-taking coinciding with the transition to the market economy, it would have been very interesting to analyze the data on temporary economic emigration from the second Yugoslavia on the basis of the 1991 census. However, it has been impossible to get relevant data for all units of the late federation.

However, the relevant data for Slovenia, the newly independent state, for the year 1991 are available. In table 4, indices of migration selectivity in Slovenia with respect to education in the year 1991 are shown. The basic difference with tables 2 and 3 is connected to the value of the index of migration selectivity for the group of university educated people. The value of the index is positive and it shows considerable change in the propensity to emigrate among university educated people in Slovenia. It is probably still premature to speak about the existence of a consistent brain drain from Slovenia. However, the changing value of the selectivity index for the highly educated can be indicative that transitional economic difficulties can cause real and long lasting brain drain for Slovenia.

Table 4 – *Indexes of migration selectivity (IS) in Slovenia with respect to education in the year 1991*

Education	Migrants[a]	Nonmigrants[b]	IS
Without and 1-3 years of primary school	150	27569	– 77.8
4-7 years of primary school	3171	235714	– 9.0
Primary school	15149	451633	26.6
Secondary school	18282	650876	5.8
2-3 years of university	1380	69399	– 26.1
4 and more years of university	2195	65038	25.6
Total	40327	1521301	–

Notes: [a] An unknown education group is proportionally distributed amongst other educational groups; [b] Population 15 years of age and more.

Source: Population census of Slovenia 1991.

5. *Some remarks on emigration and brain drain prospects for Slovenia and Eastern and South-Eastern Europe*

A thourough analysis of the present stock and of past and future flows of highly skilled migrations from Eastern and South-Eastern European countries is not yet possible. The collection of statistical data on migration in general, and on highly skilled migration in particular, are deficient in both countries of immigra-

tion in the West and transitional countries in the East. In the latter, its Central Statistical Offices and migration departments try to cope with the new developments. It is hard to get any reliable data even for the years 1989-1992. The case of Slovenia and of the second Yugoslavia has shown that statistical data on highly skilled migration are scarce and deficient even when the population census carries special questions on migrations. Therefore, the author of this paper had no option but to limit his analysis on some remarks on brain drain prospects for Slovenia and Eastern and South-Eastern Europe. The detailed and comprehensive analysis of brain drain from the region will have to wait until survey and other statistics will gather the necessary data on highly skilled migrations, be they temporary or permanent.

Migration and brain drain prospects in the region are basically tied up with the political, economic, social, cultural, and other changes in Eastern and South-Eastern Europe. At present, the over-all social, political and economic situation in the region is very laborious or even dramatic in some countries. The transitional crisis has been influencing migrations between countries in the region, as well as between the region and the outside world. The main direction of migrations in general and of highly skilled migrations in particular will be from economically less developed and backward regions and countries to more advanced ones. Economic motivation will be, to some extent, mixed with other factors such as persecution or political discrimination, a desired return to the "country of origin", the need to reunite the family, the traditional nature of the group (e.g., Gypsies) and ethnic conflicts or political upheavals (van de Kaa, 1991).

Furthermore, these push factors will, somehow, combine with pull factors existing in immigration countries. In addition to an improved level of living and a steady economic development, the most important obstacle to migration will be the policies of the receiving countries. The political unification of countries in the European Community and their more stringent border controls will hinder, at least during the 1990s, emigration in general and, to a lesser degree, the flow of the higly skilled from Eastern and South-Eastern Europe.

It is patently clear that governmental stands and programmes in EC countries would prefer to avoid any mass immigration. However, this view is not supported by many well known economists. They are convinced that Europe should permit immigration of skilled workers on the same scale as the United States does (Layard et al., 1992). It is my opinion that immigration policies of advanced countries will influence the types of migration, cause an increased selectivity of emigrants, and promote brain drain from Eastern and South-Eastern Europe.

It remains to be seen how particular countries in the eastern regions will get along. It is a well known fact that the best factor preventing brain drain is economic progress. Undoubtedly, the countries of Eastern and South-Eastern Europe which will overcome transitional crisis more rapidly and successfully will be better off in relation to the possible loss of the highly skilled. Some statistical data from particular transitional countries show increasing potential for the migration of the highly skilled. The number of employed scientists in Rumania, for example, dropped from 58.879 to 46.975 in the years 1988-1991.[6] A similar

[6] *Demographic Yearbook of Rumania 1992*, p. 220.

decline has happened in some other transitional countries. It is very likely that a good number of scientists, upon losing their job in the science sector, would like to find similar work in advanced industrialized countries.

It is our well-grounded conviction that the transitional countries will unavoidably have to cope with a growing rate of economic migrants and of the highly skilled from the Third World. Slovenia, Hungary and the Czech Republic may become forerunners in this respect. Besides, highly skilled migrations between less and more developed countries inside the region will also gain momentum. Polish, Czech, Hungarian and Slovenian emigrants will be replaced by immigrants from Ukraine, Bielorussia, Russia, Rumania, Bulgaria, Croatia, Macedonia, Albania, and the Third World. The story has been well known in some European countries during the past decades. Slovenian emigrants have been for decades replaced by unskilled, less educated, and rural immigrants from neighbouring regions (Malacic, 1989).

However, all these remarks on brain drain prospects from the transitional countries of Eastern and South-Eastern Europe do not allow us to predict, with any accuracy, future flows of highly skilled migrants from the region as a whole or from any of its countries. But one thing is certain: the emigration will be selective, with a negative impact on the region and higly skilled people will play a very important role.

6. *Conclusion*

The consequences of political and economic turmoil since 1989 within the transitional countries of Eastern and South-Eastern Europe have been severe and many. Overall social, political and economic changes in the region have dramatically shifted the region's role in international migration in general and highly skilled migration in particular.

Before 1989, the second Yugoslavia was the only country in the region with open borders and considerable international economic emigration. The analysis of migration selectivity in the second Yugoslavia in the years 1971 and 1981 has reached the conclusion that there was no brain drain in the country, in the 1960s and 1970s. The population census of Slovenia for the year 1991 shows considerable change in the propensity to emigrate among university educated people in Slovenia during the 1980s. It can be argued strongly that transitional economic difficulties can provide the necessary impetus for a long lasting brain drain from Slovenia and from other countries in the region.

Trends in migration and brain drain are clearly linked to the struggles, successes and failures associated with the transitional crisis and the creation of economic progress. The countries in the region which will overcome the transitional crisis more successfully will fare better in terms of highly skilled and other migrations. Present difficulties in assessing the quantitative volume of highly skilled emigration from the region will linger on for some time.

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Migration of scientists and professionals from the Republic of Serbia

1. *Introduction*

In the mid 1960's, Yugoslav emigration to developed European, as well overseas, countries became noticeable. The emigration of highly educated persons from the former Yugoslavia gained still more momentum and prominence in the 1970's. With the deepening economic crisis in the early 1980's, the emigration of university educated persons gained new impetus. In the mid 1980's, the flows and particularly the growing tendency among professionals to emigrate to foreign countries became alarming. The main destinations for young professionals from Yugoslavia were the U.S.A, Canada and Australia, as well as West European countries, mainly the EC member countries.

As scientists, engineers, and medical doctors possess skills that can be utilized in almost any country they choose to go to (Oommen, 1987), all the Republics of former Yugoslavia have had some experience of "brain drain".

2. *General view on the research potential within the Republic of Serbia*

To estimate the size of the phenomenon, it is useful to present some general statistical information on Serbian population. According to the 1991 Census, the population of Serbia amounted to 9.7 millions and demographers believe that, with the recent inclusion of newcomers from other republics of the former Yugoslavia, it may now be over 10 millions.

The total number of science researchers in Serbia is 15.8 thousand. These data place Serbia among the middle developed countries and indicate that, in comparison with the OECD countries, Serbia holds a place that is much higher than its economic performance. Most of the researchers work in university institutions (48%), while 43% work in independent scientific institutes and the rest are employed by the R & D organizations in Serbia.

Table 1 – *Structure and distribution of researchers by field of science*

Field	Total number	Percentage
Technical Sciences	6,021	39.84
Medical Sciences	2,548	16.86
Social Sciences	1,851	12.25
Natural Sciences and Mathematics	1,853	12.26
Biotechnical Sciences	1,765	11.68
Humanities Sciences	1,074	7.11
Total	15,112	100.00

Sourcee: Ministry of Science and Technology, Republic of Serbia, Belgrade, 1993.

According to the author's estimates, in the last 25 years, over 20 thousand highly educated people have migrated from the Republic of Serbia. More than 50 of these have been highly trained and informed experts (that is, those who have published a large number of research works in international periodicals, who have been able to legally protect their intellectual property or taught at universities in the world and are quoted in well-known publications).

3. *The results of the empirical research*

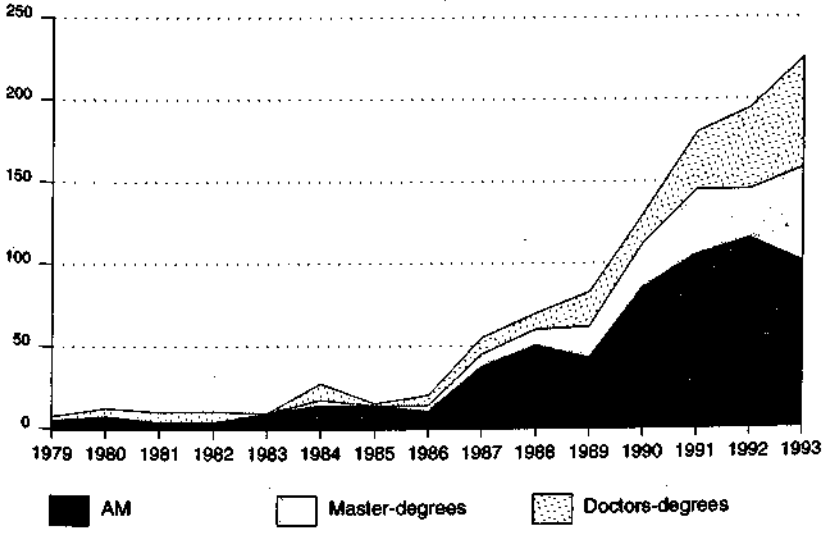
In Serbia, a study was conducted within its university and research institutes. The results of the survey show that the problem is, in our view, very serious. In the last fifteen years, 1060 scientists, researchers and other professionals went abroad. Among them, 251 were in possession of the academic title of doctor of science and 215 of M.Sc or M.A.. And what is even more significant is the fact that in 1993 alone the polled institutions saw the departure of as many as 223 researchers.

Assuming that the outflow of scientists and professionals from those universities, research and development institutions who have not participated in the polling (24% of the total number of institutions on the territory of the Republic of Serbia) would record the same average, the number of departures would amount to about 1.400.

For a relatively small country, the flows are certainly not negiglible, when compared to the total number of scientists and professionals employed at universities, scientific and research institutions.

Given the trends observed in the above mentioned 15-year long period, the outflow of scientists and professionals to foreign countries has been showing, especially since the 1990's, a steadily increasing pattern (Figure 1). In fact, over the last three years (1990-1993), the combined departures were in the vicinity of 67% of the overall number who left universities and research institutions for abroad. Out of the total number of those who have left over the last fifteen year period, a sizeable 21% left in 1993.

Figure 1 – *The outflow of researchers in the 1979-1993 period by Acad. Degrees*



Results of the Survey, 1993.

4. *Who migrates? Where to and why?*

Persons with all kinds of educational background depart, but the share is very consistent among the young (28% from 30 to 36 yrs old) scientists and professionals trained in the fields of electronics, physics, mathematics, and chemistry. The majority (60%) are under forty.

Slightly over one-fifth (23.7%) of the total number are Ph. D. holders, while about one-fifth (20.3%) holds a Master degree. Thus, a hefty 44% of the total number of those who left were holders of Masteral and Doctoral degrees.

The largest number of scientists and professionals head for the U.S.A., followed in order by Canada, Australia and the following European countries: the United Kingdom, the Federal Republic of Germany, France, Switzerland, Italy, and the Netherlands (Figure 2).

Scientists and professionals from the Republic of Serbia go abroad for different purposes. In 34% of the cases, scientists and professionals go to foreign countries to further their education i.e. specialized training; 36.3% to seek employment; and 29.7% for other reasons.

Many are the motives driving the scientists to leave their country: economic, social, political uncertainty, and the like. The poll gathered only partial answers to the questions concerning the motives for departure. Earlier studies have stressed the importance of material and financial reasons, but they were not the

crucial ones. Especially at the time when there was runaway inflation, it must be noted that the confused situation in the monetary and financial fields made it difficult to collect reliable information on earnings.

In a number of cases, housing and accommodation difficulties were mentioned as reasons for going abroad. Out of the total number of scientists and professionals who answered the question "has his accommodation been resolved?", 70% gave a positive reply, while 30% of them answered "no".

Apart from the survey carried out in the country, some data were obtained from Serbian scientists who now live and work in the US. In that country there are three categories of scientists:

– the first group are young scientists and professionals who were born in Yugoslavia and completed their studies abroad;

– the second group are those who today are engaged in scientific and research work, and who have immigrated in the 1970's. Most of them completed their studies in the U.S.A. and found employment with research and development institutions;

– the third group are those who, while being of Serbian origin, were born in the US.

According to the available data, the number of these scientists and professionals is estimated at 1.000 at least.

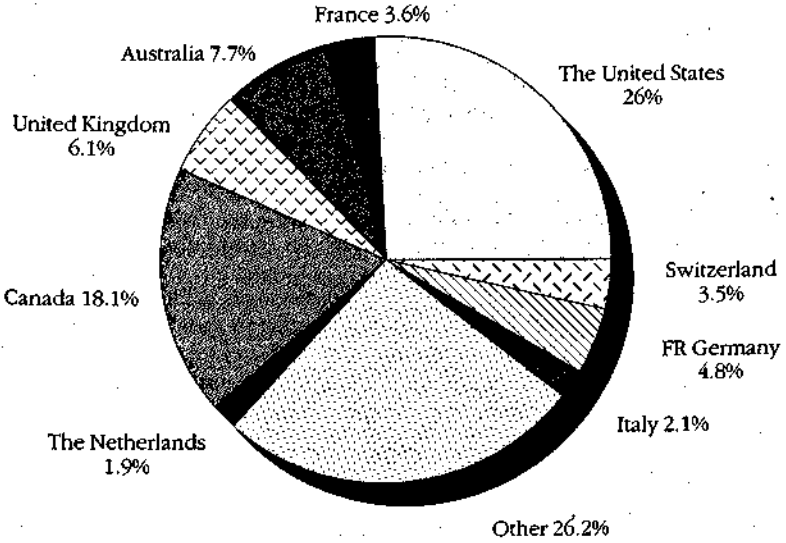
In June 1993, a survey was administered to scientists and professionals in the US. It was conducted by electronic mail and embraced 11% of the total sample. The survey could thus be taken as being representative, since it comprised more than one tenth of scientists and professionals included in the electronic communication network. Even with some reservations, the replies given reflect on the whole, the attitude of all scientists and professionals towards Serbia and Yugoslavia. The reservations result from the fact that a random sample was not applied, but the questionnaires were sent to all of them and those who were available or willing to reply at that moment did so. However, it is felt that this did not have any significant effect on the conclusions that can be drawn from the survey.

Natural sciences, electrical engineering, computer science and physics take the leading places on the list of activities the polled professionals are involved in.

The average period of residence in the US is 6.6 years. All those who have responded to the questionnaire were born in Yugoslavia (the first of the three above mentioned groups).

Over three fourths of the surveyed scientists are of the opinion that their work in the US is satisfactory. Still more relevant is the question whether they think they could in some way give a contribution to their country of origin. All surveyed scientists gave a positive reply to this question. The conclusion may be drawn that scientists of Yugoslav origin are, to a great extent, willing to cooperate with scientific or tertiary institutions in Serbia. Of course, there are those, perhaps most of those who preferred not to answer the questionnaire, who for different reasons, above all political ones, are not willing to cooperate.

Figure 2 – *The outflow of researchers in the 1979-93 period by destination*



Results of the Survey, 1993.

5. *Migration causes of scientists and professionals*

Migrations of highly educated and/or trained people, as well as of all other types of emigration, are determined by the so-called "pull" and "push" factors. To be mentioned, in this context, are also the factors curtailing migration flows, resulting from migration policies formulated by each individual receiving country.

Professional, technical and kindred workers are, to a large extent, lured by technological developments that are occurring in foreign countries. A lot of sending countries, and Yugoslavia is a remarkable example nowadays, are still facing political crises (Waever, 1993). Developed countries offer and promise refuge and security to a large number of asylum seekers, i.e. those that are granted the status of refugees. Among asylum seekers and refugees there are very many highly educated and trained people.

The author's research on this question has shown that the primary causes in the migration of the highly educated and trained professionals from Yugoslavia are:

– discrepancies in the socioeconomic situation in the country that keep narrowing the availability of opportunities needed by professionals to secure productive employment and full use of their knowledge and skills;

– uncertain conditions and opportunities for their professional advancement;
– absence of conditions that would rekindle and exploit creative impulses and recognize abilities and potentials of individual professionals with above average skills;
– inadequate material (financial) conditions for reasonable housing, living and working conditions;
– absence of institutionally organized care for people whose skills are above average (Grecic, 1992);
– escaping from potential threats of war, or from enforced military service;
– breaking loose from the Yugoslav "scientific prison" which has been created by the U.N. sanctions for purely political reasons. This is the first time in history that science, scientists and the scientific community of a country have been included in the U.N. sanctions.

Thus the contemporary emigration of scientists and professionals involves widespread push and pull factors that reflect perceptions of enormous differences between the politically, economically and socially rich nations of the "West" and the frustrated expectations of the most dynamic and mobile people in less privileged nations. There is nothing new in all this, except the scale of movement and the fact that it will increase.

Many indicators show that the level of socioeconomic development in general and of living standards in particular, are much lower in the republics of the former Yugoslavia than in the "West".

The civil war, still raging in former Yugoslavia, the U.N. sanctions against Serbia and Montenegro, etc.... are seen as cogent reasons for emigration.

6. *Effects of scientists' and professionals' migration*

The emigration of scientists and professionals has always been and still remains an essential component in the process of economic development and of social and political changes in any country. This means that capital investment in new industries demands also investment in personnel, especially in researchers.

The emigration of highly educated persons from the less developed countries has been critically assessed by many international experts. Among these Bhagwati (1976) takes a prominent place. They have looked at the positive and negative effects on "sending" countries through their allocation of major resources in the schooling and education of trained personnel. It should also be mentioned that "intellectual migration is a multifaceted problem with positive and negative sides and that this is a natural phenomenon which is closely linked with basic human rights" (Zemljanoj and Kouzminov, 1992).

These effects are well known in general. But it might be useful to mention some of them, primarily the negative ones. Besides the sizeable investment in the schooling and education process of migrating scientists, the country of origin loses some of its precious manpower in the field of science, medicine and industry, and also in economic areas as well. Ch. D. Mundente (1989) is of the opinion that the "brain drain" can provide help only if it works in both directions.

If we bear in mind that at least 50 of the highest level researchers left the Republic of Serbia, we have no alternative but to state that it is a great loss for a small country like Serbia, not only for the cost of their training (that are estimated at about $ 60,000 per expert) but also for future lost benefits.

Measures to prevent highly trained people in developing countries from emigrating to developed ones have been articulated, and they are: preventive, restrictive, restorative and compensatory. These are not necessarily mutually exclusive (Mundende, 1989). The previous experience of many other countries has shown that the first group of measures has yielded the best results. Thus, policies should be basically based on stimulative rather than on restrictive measures. Concretely, these steps would have to refer to the improvement of the research/development system of the Republic of Serbia in general, as well as to the improvement in the organization of its research institutions.

7. *What might be done?*

In trying to find an answer to this question, it is helpful to recall what Latin American researchers have come to regard as vitally important for lessening the impact derived from brain drain (Lamarra, 1992).

First, solutions should be sought in the educational arena (updating the educational system within each country by means of, for example, various agreements between countries in the same region; use of programs such as exchanging professors and researchers with Latin Americans living abroad, mutual endorsement of school degrees, etc...).

Second, a stronger impetus should be devoted to the establishment and encouragement of scientific and technological policies; to the introduction of national and regional programs as well as of projects aimed at furthering academic and professional training, to the upgrading of salaries and career incentives.

Third, in order to ensure that the full potential of the highly skilled is properly harnessed, a change in their employment status along with material and professional incentives should be offered.

And lastly, communication networks between existing academic and professional fields and special projects for the return of the highly skilled from abroad should be established and developed.

Relying on the experiences of other countries, as well as research conducted within the Republic of Serbia and keeping in mind its socio-political condition, policy makers should increasingly turn their attention to two factors.

First, legal technicalities affecting skilled migrations should be tackled. After having set up more flexible forms for the establishment, ownership, financial and fiscal obligations of scientific institutions at home, it should establish formal links with foreign organizations and/or universities which are attracting the highly skilled, with a view to set up liaison and cooperative undertakings with them. To this end, we suggest the creation of a body which could be called "the National Council for Intellectual Migration" to keep a tab on the movements of the highly skilled and to formulate relevant policies.

This advisory body, made up of renowned and expert people living in the country or abroad, should be a professional, non-governmental and non-profit organization. After the lifting of sanctions, a regular tracking system could then be included in the OECD system, its annual reports published in SOPEMI, so as to ensure a contribution towards the realization of the "return of Talent" program.[1] The key factor seems to be revolving around better earning and professional incentives for brains still in Serbia, particularly the younger sector, and those abroad who may decide to return home.

Second, on the international circuit, the ensurance of study periods abroad with either government funded scholarships or private funds set up for this purpose, with donations being received, for example, by former Serbians now living abroad would be very welcome, so long as the grant beneficiaries return home. Also a greater involvement of diplomatic and consular offices, perhaps resulting in the appointment of a Science Attaché, with a view to maintain links with scientists overseas would also be beneficial. The Science Attachè could possibly organize and establish associations of professionals abroad that would foster communication with their colleagues at home. The Institute for Nuclear Research in Vinca has a good record in this regard. Particularly experts who have been living abroad for a long time (20 to 30 years), should be engaged for consultancy periods or specific projects. All the surveyed scientists in the USA have manifested a good degree of interest in home affairs, expressing the wish to be more informed. Cooperative forms have also surfaced which, it is felt, would, in the course of time, improve the:

– definition, utilization and development of information systems;

– willingness to exchange literature (books, articles, conference papers etc...) not available in Yugoslavia;

– organization of seminars, workshops, sumnmer courses, round tables, conducted by professionals working abroad;

– the efforts on some joint projects and/or publications;

– arrangement for granting scholarship to students wishing to attend foreign universities;

– establishment of foundations, modelled on the Polish-American or Hungarian-American Foundations, with the aim of funding entrepreneurial projects in Serbia.

It appears that a large number of Serbian professionals abroad are willing to offer hep to their country of origin. Their implementation depends, however, on

[1] Within the program "Return of Talent" the International Organization for Migration (IOM) is recruiting Latin American and African experts now working in the United States, Canada, Europe and other countries, to take up highly specialized and professional positions in Latin America and Africa. Top positions are now available for experienced or highly qualified professionals ready to return to their country of origin to transfer technical knowledge and apply experience acquired abroad to assist in economic development. IOM offers placement, transportation and integration assistance to candidates and their families through its offices in various countries. The "Return of Talent" program has been in operation with the assistance of developed European countries since 1974, and with the help of the United States since 1981. Some 12,500 Latin Americans and their families have returned under this program. In 1983 IOM expanded its "Return of Talent" program to include job placement and return migration to Africa. The "Return of Talent" program currently involves 16 Latin American and 11 African countries.

the prevailing moods at home. Some positive examples should be mentioned. The Serbian Ministry of Science and Technology devotes much attention to the development of young professionals by means of various programs and initiatives, such as the:

– republican fund for the development of young artists;

– research station "Petnica", founded in 1982 for the education and scientific training of young professionals. In 1992 it had an enrolment of more than 2.000 students;

– center for the development of young professionals in the scientific and technical field;

– association "Archimedes";

– young researchers association in the Republic of Serbia.

Within understandable limits, the Republic of Serbia attempts to sustain or encourage young professionals through scholarships, employment or by simply establishing a liaison with firms and industries.

8. *Conclusion*

Recognizing that everybody has the right to choose where he wants to live and work, evidence suggests, in conclusion, that the motives that have made scientists and professionals emigrate from the Republic of Serbia are better pay, increased recognition in the field of science, better working and living conditions, etc...

Therefore, in addition to creating the right conditions for either keeping them or bringing them back to their country of origin, attention is also directed to the need for cooperation with professionals abroad and their engagement in specific projects. Two years ago, the Institute of International Politics and Economics set up a data bank on Serbian scientists and professionals abroad.

Taking into consideration the number, skill and willingness of scientists living and working abroad, it is felt that they could greatly contribute to the process of returning Yugoslavia to its former prestige, by eliminating the negative developments of the past two years. The break-up of the SFRY, ethnic conflicts, civil wars and finally the sanctions imposed by the UN Security Council against Yugoslavia have brought about two very negative trends: the dwindling of remittances and an excessive "brain drain".

Opportunities to promote economic cooperation in various fields relies also on immigrants, especially professionals living and working in developed countries. Migrant professionals in developed countries are a significant economic, technological and financial component for the development of economic relations between the two countries concerned. They possess knowledge and experience, and some of them considerable financial resources.

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Migration potential within Russia's military-industrial complex

1. *The main reason for the bloated development of Russia's defence industry*

Russia's defence industry has been at the core of the country's industrial potential. Its share in the country's industrial production was 60% in 1992: 4.4 million people were directly engaged in it and 12 million people in related production. A rough estimate of the number of individuals involved would possibly reveal that close to 35/40 million people were relying on it for their livelihood.

To further illustrate why Russia's main color was khaki, one should understand the operation of its system of management which has been put together in the course of more that 70 years.

The basic distinction between the former USSR economic system and all industrially developed countries lies in the fact that the means of production were, within the shortest period of time, withdrawn completely from the hands of "personified" owners and transferred to the one and the same depersonalized owner: the state. This economic model represents state-monopoly capitalism, which, for some reason, came to be called "socialism" in this country.

State capitalism had already "ripened" by the early 1940s, signaled by Stalin's phrase about the victory of "socialism". The most graphic evidence of this was the transformation of the entire able-bodied population into workers hired by the state through the so-called "collectivization". Industrialization followed collectivization, that is the development of industry on a state-capitalist basis which absorbed in turn the mammoth potential of hired labor created by "collectivization".

State capitalism employs the same production-profit techniques as"normal" capitalism. But there is an essential distinction in the method of obtaining it. The monopoly of the means of production forces workers into absolute dependence, as far as their wages and salaries are concerned, paid out by the state. Low wages and salaries have been and remained the main method of maximizing profit in state capitalism.

Maintaining monopoly over low-priced manpower required, of its nature, fencing off the internal labor market from the external one by a state border. Isolation from the outside world was connected precisely with "collectivization". Prior to it, independent peasants "had been chained" to the country by their own means of production, land being the main one. Once deprived of it, they became hired workmen, highly mobile people, whose movements were determined by the level of their wages and salaries.

Had it not been for the sealed off state borders, it can safely be stated that, instead of becoming hired workmen of state capitalism, the aforementioned peasants would have rushed to those countries where their labor would have received a higher remuneration. Low wages gave rise to the weak development of basic elements necessary to human existence: electricity, foodstuffs, industrial and agricultural production and services in general.

The second consequence of monopolized low wages was the retardation of technological progress. New technologies in the conditions of profit-oriented production are introduced if the cost of these technologies is lower than the sum of wages taken home by workmen. As the state "directed" wages and salaries "to nil", it is hard to imagine new and better technologies which would allow to save on infinitesimally small magnitudes.

Minimal wages and salaries and overall participation of able-bodied population in wage labor ensured the state also the monopoly over big profits.

High profitability stimulated capital investment in production. The result was the creation in the country of a vast industrial potential with a low share of industries producing consumer goods along with an exceptionally high share of industries unrelated, either directly or indirectly, to this process. This part of the country's industry was engaged in absurd "production for the sake of production". The produce of this part of industry turned out to be "antihuman" in every sense of the word. What can be more opposed to human beings than weapons, means of waging wars? That is why an over excessive development of defence industries is the natural result of state capitalism, an extreme example of a dehumanized economy.

2. *The state capitalism and potential migration*

Here are some conclusions, important for understanding potential migration trends:

(1) The state-capitalist system creates the potentially mobile population because it deprives them of all private property. Wage workers are not connected with a given territory or country in any way except for their wages or salaries. Therefore the workforce has no option but to migrate.

(2) A hired workman represents, in principle, a commodity not for the local but for the world labor market. Only state-run capitalism strives to fence workers off from the world labor market.

(3) When decadent, state capitalism brings about an acute social economic and political crisis, typical of transition periods from one social system to another.

With hired labor remaining for the population the prevalent form of getting the means of subsistence, it is obvious that the incentives to a real migration beyond the bounds of the collapsing system and thus obtaining a genuine "market" price became great as well as urgent.

(4) The stagnation of technical progress inherent in state capitalism, as compared with countries which have not been molded by state-run production systems, opens up opportunities for workers to achieve material status and skills comparable to other sectors of the world market.

(5) Hired workmen value a country not for what it is, but as a component in the world labor market. A choice of the country of emigration stems from an evaluation of the most advantageous conditions for selling their labor. That is why the "geography of emigration" of specialists from the military-industrial complex will be determined, above all, by which countries will offer the best rewards. In political terms, it means that defence industry workmen may also go to work in countries with "aggressive regimes".

(6) The formation, development and, now, decadence of state capitalism is a special case in world history. That is why building a new society on its "ruins" presents an absolutely specific problem which has had no previous analogy. If the right solution is found in the transition from state capitalism to a society which is still to come, the decomposition of the economy, the impoverishment of the population, political and national instability will be gradually overcome and finally removed. Workmen will again associate their future hopes with Russia's progress instead of relying on foreign destinations.

This conclusion is now tested with the aid of empirically based findings. That is, how are theoretical considerations matched by specific research into emigration intentions of workmen from Russia's military-industrial complex?

3. *Subjects of the study*

During a joint migration project with Rand Corporation (USA), with interviews held during the months of May and June 1992, emigration intentions of specialists from several defence enterprises in Russia were surveyed.

The migration of specialists regards two sectors producing the most up-to-date arms: the aerospace and atomic industries. The present research dwelt on elite enterprises of the military-industrial complex, which are well known by their achievements in the field of designing aerospace technology as well as in the field of developing and producing atomic weapons. The survey does not claim to represent the military-industrial complex as a whole. But it gives an idea about emigration sentiments that are formed among highly skilled specialists in the leading enterprises, which until recently were enjoying the most favorable and privileged conditions, as compared with other facilities of the defense industry.

We have confined ourselves to an analysis of the emigration intentions of specialists holding doctoral degrees or candidates of science. In this case the holding of a scientific degree is far from being a formally recognized qualification. It makes it possible to identify the most skilled and knowledgeable part of the

specialists. Their emigration holds the highest significance, both for Russia and for other countries.

4. *Emigration determinants of highly qualified specialists*

4.1 *Holding a scientific degree*

The share of highly qualified specialists within the surveyed enterprises is very substantial. In the aerospace industry, one out of four specialists and in the atomic industry one out of three specialists holds the Doctor's or Candidate's degree. In the aerospace industry, 80% of doctors and candidates of science show interest in working abroad. In the atomic industry this indicator is much lower: 47%. Consequently, orientations towards working abroad are very strong and differ substantially, depending on the branch of the defense-oriented industry.

In the aerospace industry, specialists holding scientific degrees are somewhat more oriented towards working abroad than specialists without such degrees. In the atomic industry, the situation is reversed, the difference in orientations being quite substantial, especially for those holding a degree. These data show that there is no direct and unconditional interdependence between the level of qualification and orientation toward work abroad.

4.2 *Age*

Emigration intentions of specialists are closely associated with their age. The younger the respondents, the more considerable is their orientation towards working abroad.

Specialists between 30 and 50 years old show greater willingness to work abroad, and those 50 years old and older are less interested. Within the aerospace industry, persons between 30 to 50 years make up 49% of those who want to work abroad and 14% of those who do not want to; in the atomic industry 57% and 38% respectively.

4.3 *Ethnic composition of specialists*

So far, migration flows from Russia have been dominated by persons departing for their historical homeland, chiefly Jews and Germans. This sometimes gives rise to the argument that migration is ethnically motivated.

The emigration intentions of Jews are most strikingly expressed in the aerospace industry (Fig. 1). Jews make up about 3% of those who want to work abroad and are fully absent among those who do not want to. Ukrainians and representatives of other nationalities are also prone to working abroad. On the other hand, Russians and Byelorussians are less inclined to accept offers of employment abroad. These data seem to confirm both the high emigration

activity of Jews and the involvement in emigration of people from other ethnic groups. In the atomic industry, it appears that the ethnic composition of both groups of specialists who want and do not want to work abroad are practically identical, and would support the assumption that ethnicity does not play a big part in the formation of emigration intentions. In closed cities, however, Jews are not distinguishable from other groups as far as their migration intentions are concerned.

4.4 *Structural grouping of personnel*

How does the role of respondents in the production system of enterprises influence the formation of the emigration potential? In the aerospace industry, it is chiefly engineers and subdivision managers who show an interest in working abroad. In the atomic industry, scientific workers want to go abroad: among them, the share of those who want to leave the country is 50% higher, if compared with those who do not want to (Fig. 2).

Bearing in mind the specific nature and working of the atomic industry and the limited number of persons possessing secret information, the low orientation of leading personnel towards working abroad is regarded to be a positive factor.

4.5 *The level of professional skills*

Specialists who would like to leave the country give a high assessment of the level of their professional skills. Those who have given themselves the highest mark do not appreciably exceeded those who do not want to work abroad. The assumption that some of the best cadres of the defense industry intend working abroad is once again confirmed (Fig. 3)

4.6 *Knowledge of foreign countries*

Most specialists in both industries possess only vague ideas of working and living conditions abroad (Fig. 4).

Specialists in the atomic industry are much better informed about working conditions abroad. Respondents who have a clear notion of their wishes prevail in the total number, with only one in ten persons not knowing about these conditions. In the aerospace industry, nearly 30% of the potential migrants have no notion about working conditions overseas. These data are quite understandable: the enforced separation and sealing off of both country and enterprises over the recent past and the lack of personal contacts with foreign specialists have led to such a result.

The combination of a desire to go abroad and the ignorance pertaining to rights and conditions as far as employment and recruitment is concerned may, in our opinion, create disappointment about the real working conditions and the amount of remuneration received once abroad.

Figure 1 – *Ethnic composition*

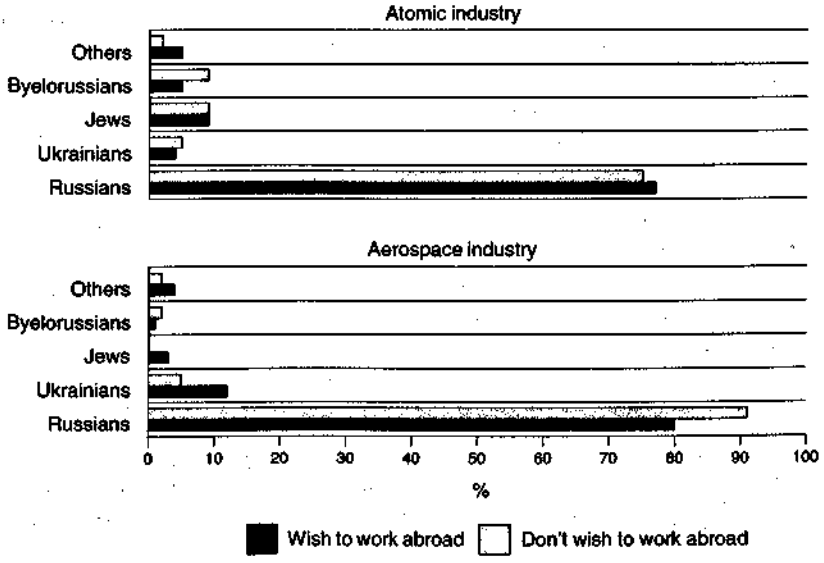


Figure 2 – *Structural grouping of personnel according to posts held*

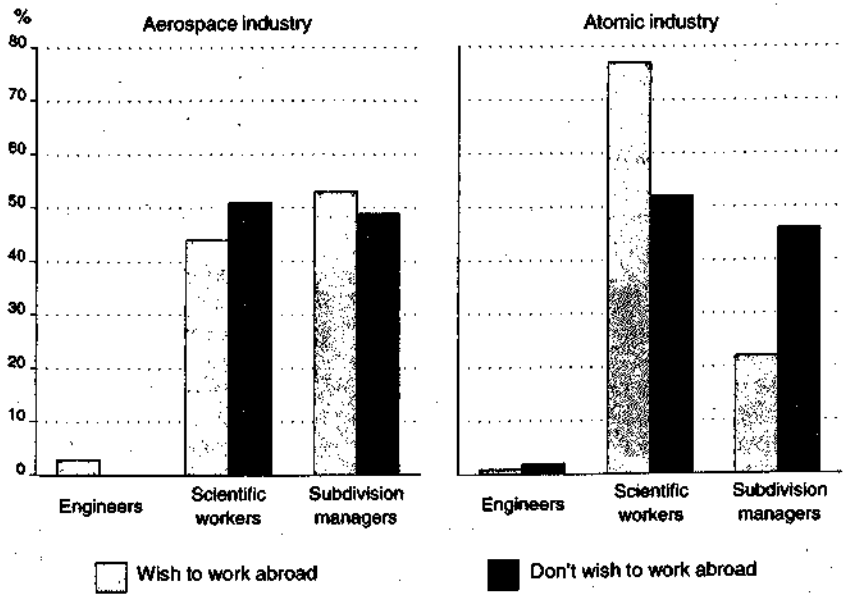


Figure 3 – *Self-appraisal of professional level according to the five-mark grading system*

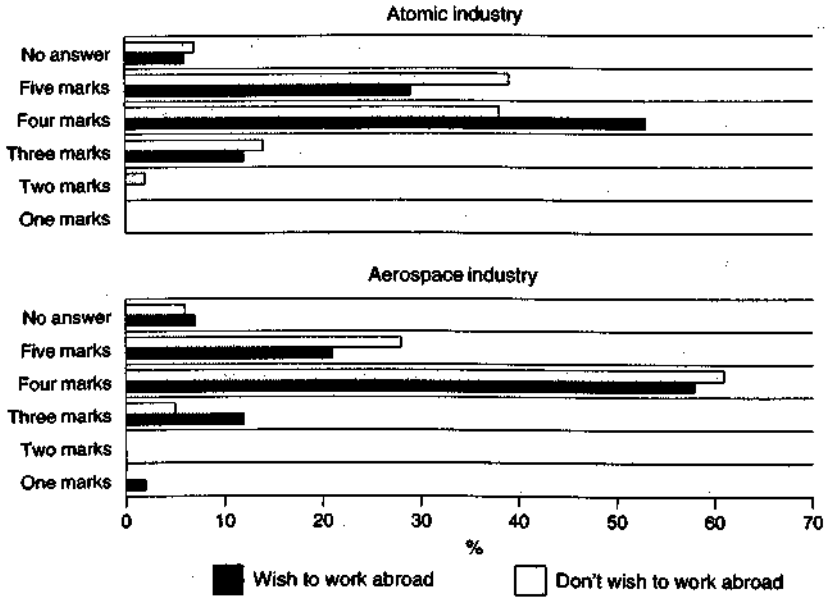
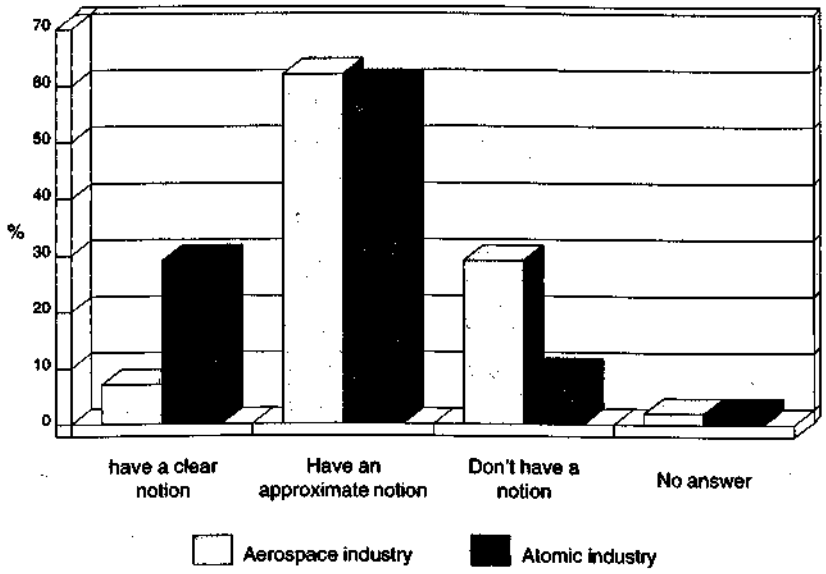


Figure 4 – *Notions of working and living conditions abroad*



4.7 *Geographical location of preferred countries*

Which countries, with job vacancies, will attract respondents? North America, particularly the U.S., definitely lead the way, followed by Western Europe. Regions of conflicts rouse no interest in the respondents.

One would think that there are no grounds for anxiety about possible migration to countries with aggressive or dictatorial regimes, if we take into consideration the geographical location of preferred countries. But let us turn our attention to countries with no attraction whatsoever to our respondents. It turns out that only 27% of specialists in the aerospace industry and 12% in the atomic industry selected countries with aggressive regimes; other respondents either failed to name a country or named other countries.

Consequently, it is impossible to state that people wishing to work abroad are definitely ill-disposed towards countries ruled by aggressive regimes. The absolute majority of respondents are indifferent to the existing political regime of the country offering a job opening. Of course, it would be preferable if the offer would come from Europe or from America, but most probably respondents will not reject other offers as well.

As we have noted above, it is of no special importance for specialists oriented toward working abroad (both within closed or open cities) which country and which political regime would offer a job. The same thing can also be said about working in one or other specific industrial branch. About one-third of respondents prefer to work in civilian industry. But nearly half of the specialists are fully indifferent to the choice of industry, and some of them want to work in defense-oriented industries.

77% of those wishing to work abroad regard weapons' production a job as any other and are not greatly concerned about peace issues. Our analysis shows that there is little ground for hoping that Russian specialists nurture an aversion towards employment in the war industry or towards employment in countries with aggressive regimes. Economic calculations, not political bias or emotional attitudes toward certain countries and their policies, will determine their readiness to work in a foreign country.

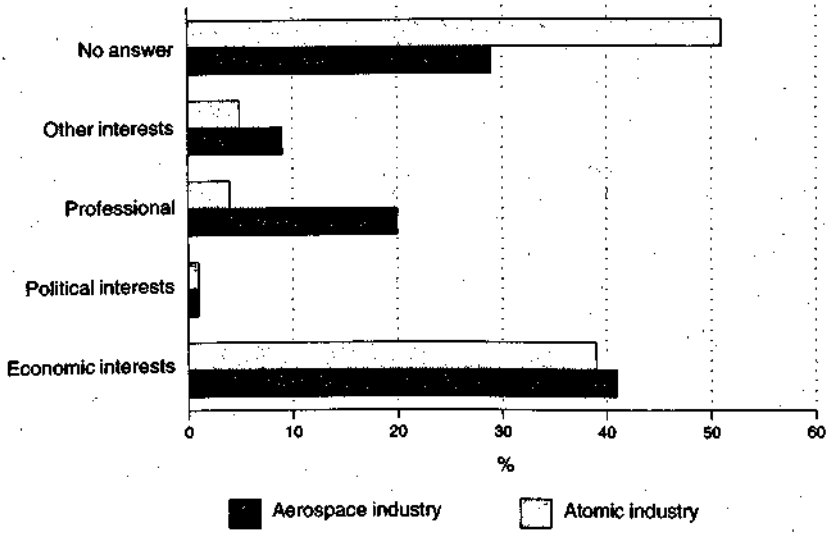
5. *Push and pull factors*

5.1 *Motives of emigration*

Motives leading to emigration from Russia are, to a minimal degree, connected with politics, but they are associated, to a decisive extent, with economic or professional interests. This is confirmed by the reply to the question as to why the work abroad attracts respondents (Fig. 5).

In our view, this fact substantiates our fear that if specialists are offered jobs corresponding to their expectations, they may continue their professional work without paying special attention either to the nature of the political regime in the host country, or to the type of industry that would employ them.

Figure 5 – *Reasons for interest in the country of immigration*



The absolute majority of those wishing to work abroad would not go there on a permanent basis, that is becoming migrants and subsequently citizens of foreign states as well. There are only 3% of such workers in the atomic and aerospace industries. The rest of them would like to work abroad on a temporary basis.

Table 1 – *Motives of emigration*

	Aerospace industry	Atomic industry
	Wish to work abroad	
Attractiveness of abroad:		
economic	12.8	31.2
political	0.0	1.3
professional	1.1	0.0
Non-attractiveness of Russia:		
economic	54.5	29.9
political	9.1	2.5
professional	–	–
other reasons	13.9	20.8
No answer	8.6	14.3

Why, then, do specialists want to leave Russia? Basically, there are two motivations: they are pushed out by living conditions in Russia and attracted by better conditions abroad. What factors of emigration do these specialists stress in their appraisal and what factors are most significant to them? It turns out that they want to leave their country not because everything seems good abroad but because everything seems bad in Russia (Table 1).

These motives are most perceptible in the aerospace industry. Only 14% of those who want to leave the country emphasize the fact that everything is good abroad, 64% highlight what is bad in Russia. In the first place, these people are pushed out by economic factors, and only 9% by political factors.

If the employees in the aerospace industry highlight what is bad in Russia, the workers of the atomic industry are equally attracted abroad, since they feel "pushed out" by the worsening situation in Russia. But in both cases the motivation is chiefly economic.

5.2 *Salaries*

The workers in the atomic industry will opt for countries under dictatorial regimes to a lesser degree than workers of the aerospace industry. The specialists are still responsible to their state and government. This is due to the fact that, both in the past and even now, they remain under the patronage of the state. The state continues to support the output of atomic weapons, despite the deterioration of the economic situation. This can be exemplified by the amount of specialists' salaries (Table 2).

Table 2 – *Average monthly salary (rubles) (May-June 1992)*

	Aerospace industry		Atomic industry	
	Wish to work abroad	Don't wish to work abroad	Wish to work abroad	Don't wish to work abroad
up to 4,000	89.3	81.4	18.2	11.5
4,000-6,000	5.9	9.3	70.1	58.6
6,000-8,000	3.7	7.0	11.7	28.8
8,000 and over	1.1	2.3	0.0	1.1

The tendency in both industries is clear: the lower the level of salaries, the stronger the desire to work abroad. The salary is a factor of crucial importance.

If at the time of our survey nearly 90% of the aerospace industry employees received a salary below 4,000 rubles, then in the closed cities the specialists on the same level received half as much.

At the time of the survey, the average expected expenditure on food maintenance amounted to 1,200 rubles a month per person. The average monthly

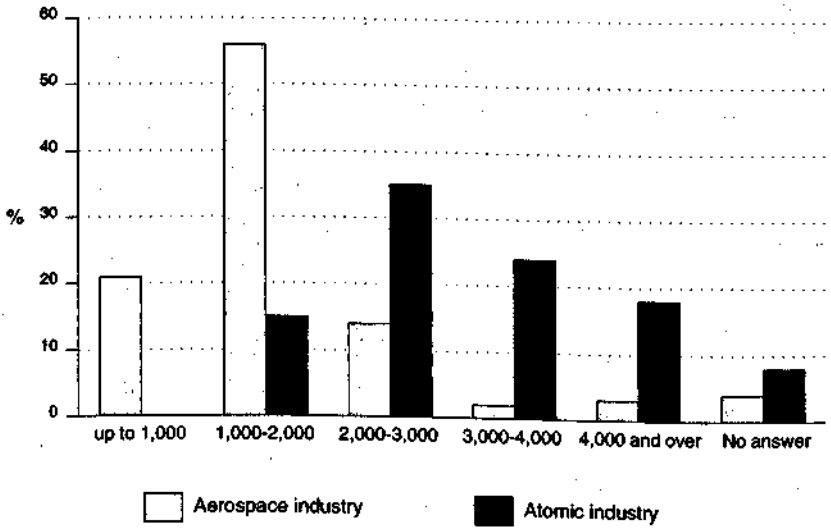
income on a pro capita basis in the families of higher qualified specialists was as follows (Fig. 6).

In the aerospace industry, nearly 75% of the specialists lived at the level of minimum subsistence or even below it, and in the atomic industry the figure was 15%. If we take into account the need to spend additional money on food, clothing and other socio-cultural needs, the picture is even more deplorable.

If we turn to the salary level which specialists would deem barely acceptable for their labor, it turns out that the desired salary of employees in the atomic industry is roughly three times higher than is the case now and five times higher than is the case now in the aerospace industry. The level is dictated by a mere desire to compensate for price increases and to restore the "pre-reform" levels of consumption.

Widespread overtime work testifies to a difficult situation, above all in the aerospace industry. Such practices were not unknown before Perestroika. Prior to 1985, 15% of those wishing to go abroad kept additional jobs. But since then, their number has increased more than fourfold. At the time of the survey, over 60% of those who wanted to go abroad and about 25% of those who did not were wanting some additional sources of income. If we also take into account those who wish to earn some extra money, it turns out that no less than 90% of those who want to go abroad and 60% of those who do not want to go could use additional earnings. Only one out of five respondents referred to "professional interest" among the causes for needing extra earnings in the aerospace industry.

Figure 6 – *Average monthly income per member of the family* (rubles)



For the rest, extra earnings are not seen as being linked to professional interest, but are regarded as means for improving their financial position. One out of three specialists earns additional income on a permanent basis, whereas every fifth one does so more often than not. The rest earn a little extra when they can do so. Perhaps the economic reform has caused the search for additional earnings. The question is still open as to the impact overtime work may have on a regular job. Having worked eight hours a day for meager wages, specialists are forced to take other available jobs.

On the contrary, the specialists employed in the atomic industry undertake additional jobs to a much smaller degree. At the time of the survey this was done by 13% of those who wanted to work abroad and by 2% of those who did not. Some 23% of those who wish to leave the country and 7% of those who take no interest in work abroad would like to earn on the side. If we take into consideration those who wish to earn on the side, combined with those who already work for additional income, their number in the atomic industry is much lower than in the aerospace industry. All this testifies to the fact that, so far, the standard of living in the atomic industry is much higher.

The economic reform as it proceeds now destroys the basic potential of the defense-oriented industry and facilitates the deterioration of specialists. That was the case in Russia after the 1917 revolution, when skilled workers and even engineers started producing cigarette lighters.

In both sectors the specialists feel anxious over the reduction of employment in the defense-oriented industry. Some 80% of the respondents believe that, in the future, the government should take greater care of the defense enterprises.

But how well-founded is their anxiety? Perhaps their specialization makes it impossible for them to work in civilian sectors and this prompts them to leave for foreign countries where there is a need for such specialists? Here is the respondents' opinion on this issue (Table 3).

Table 3 – *Can the specialists' knowledge be applied in civilian production?*

	Aerospace industry		Atomic industry	
	Wish to work abroad	Don't wish to work abroad	Wish to work abroad	Don't wish to work abroad
Specialists who can work without a refresher course	89.3	81.4	71.4	64.4
Specialists who can work but need a refresher course	5.9	7.0	15.6	14.9
Specialists who cannot work in general	0.5	0.0	6.5	1.1
Difficult to say	4.3	7.0	6.5	19.6
No answer	0.0	4.6	0.0	0.0

Most specialists hold that their knowledge can be used in the civilian sector without any further training. Amongst workers who answered the question negatively, we find quite a few in the atomic sector. The reason for their anxiety lies not in the impossible application of their knowledge to civilian activities nor in their previous military experience, but in the destruction of the defense industry which is not accompanied by the creation of jobs in civilian production. In 1992 alone, according to the estimate of the State Statistics Bureau of Russia, military output was to be reduced by half, while the production of civilian items by the defense industry was to increase by 9%. This threatens to cut off specialists from their means of subsistence in military production and to give them nothing to do in the civilian sector.

Thus, orientation on emigration is first of all the result of the current economic situation in the country. Highly qualified specialists are confronted with a problem of applying their knowledge in Russia: to a large extent they become redundant not only in military production, but also in the civilian industries which are undergoing a severe crisis. Not only young people express their wish to work abroad, which is quite natural, but also a large number of specialists of mature age. This is a symptom of a serious crisis in the military industry. The only solution remains that of going anywhere and doing whatever a prospective employer wishes. The present situation is such that everything depends on the "brain purchasers".

5.3 *Political and social attitudes of specialists*

A yet more fundamental question is that of private property and privatization. Until this question is settled, the economic crisis will deepen. What is the attitude of the defense industry specialists towards privatization? Can the government regard these specialists as their allies? If so, whom does it regard as such and to what degree? Here are some data (Table 4).

Table 4 – *Do you agree with state property privatization?*

	Aerospace industry		Atomic industry	
	Wish to work abroad	Don't wish to work abroad	Wish to work abroad	Don't wish to work abroad
Agree	54.0	30.2	71.4	27.6
Don't agree	16.6	30.2	7.8	39.1
Hold themselves incompetent	24.1	25.6	20.8	32.1
No answer	5.3	14.0	–	1.2

Those who agree with the privatization of state property prevail among the migration-prone specialists. This phenomenon seems to occur in both industries. The share of those who disagree with the privatization scheme is even larger. Consequently, the very principle of state property privatization, the cornerstone of the economic reform, enjoys a substantial support on the part of those who would like to leave the country.

Potential emigrants are dynamically open to reforms. For example, one third of the potential emigrants would like to have their own business, to become private entrepreneurs (Table 5).

Table 5 – *Would you like to have your own business?*

	Aerospace industry		Atomic industry	
	Wish to work abroad	Don't wish to work abroad	Wish to work abroad	Don't wish to work abroad
Have one already	4.3	2.3	3.9	0.0
Would like to have	31.6	11.6	32.5	5.8
Don't want to have	31.6	55.8	28.6	78.2
It's difficult to say	31.0	25.6	32.5	12.6
No answer	1.5	4.7	2.5	3.4

The specialists who do not want to work abroad think in more conservative terms. Among those who are disposed to emigrate we see the people who would like to become entrepreneurs and not simply those who approve of the idea of private property in principle. Precisely such people conform to the spirit of the ongoing economic reform which may be successful only if there is a good group of private entrepreneurs. On the other hand, the most conservative section of the population that does not accept the property reform would like to remain in the country.

Potential migrants support the government's political and economic course to a greater extent than "those who stay at home". At the same time, it is clear that those in the atomic and aerospace industries who want to leave the country are divided, almost equally, between supporting and not supporting the government's course, whereas those who do not want to migrate generally disapprove of this course. The latter category express their attitude quite categorically. Consequently, here, too, we see the situation in which people supporting the government to a greater degree would like to go abroad, while those who do not support it would like to remain in the country. Future emigration is, in principle, the emigration of government supporters. Its opponents are not going to emigrate. As for the government's supporters, as we have seen, they are not going to struggle for reforms in Russia. Their support is purely nominal. It would be real if they assisted the government in the pursuit of its policy while remaining in the country.

6. *Conclusions*

The present research warrants the following preliminary conclusions:

1. The migration potential of the highly qualified specialists is significant in the enterprises under investigation. Even if we consider the specialists in the atomic industry whose migration intentions are relatively moderate, we may state that no less than half the doctors and candidates of science are interested in working abroad.

2. The specialists who intend to work abroad constitute the most promising group. They are younger than those who do not want to leave the country, and they possess up-to-date qualifications enabling them to work in civilian production lines practically without having to take refresher courses.

3. Specialists of defense-oriented enterprises do not attach special importance to the political regime of foreign countries offering jobs to them. It is perfectly clear that it is precisely the economic and professional factors, not the political ones, which will influence the decisions taken by specialists to leave the country.

4. The departure for abroad is facilitated by the fact that the qualifications of respondents would enable them to work, both in the defense-oriented and civilian industries. The absolute majority of respondents is indifferent to the branch of industry where they would be employed, either in Russia or in other countries.

5. The probability of departing for abroad is also heightened by the fact that few persons wishing to go abroad have a clear conception of future work conditions or be able to demand sufficiently strict terms of employment. This is specially true of the specialists working in the surveyed aerospace enterprises. Those working in the atomic industry are more demanding in this respect. Nevertheless, it is quite realistic to believe that any recruitment firm can recruit various specialists.

6. Those who intend to migrate share, to a greater degree than those unwilling to migrate, the government's principles of economic reform and its implementation. This is an alarming development for the government. It will be deprived of a still powerful social base supporting its reforms and will be confronted, instead, by those who oppose its policies.

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Determinants of migration potentials among Russian physicists

1. *Introduction*

Our research focuses on emigration intentions of physicists engaged in fundamental rather than applied research. Though emigration intentions do not necessarily lead to actual emigration, they can be useful in forecasting future emigration trends.

According to academician Andreyev, the vice-president of the Russian Academy of Sciences and Director of the renowned Kapitsa Physics Institute, an estimated 40% of the best theoretical physicists and 12% of all experimental physicists in the former Soviet Union have taken up permanent or temporary residence abroad in the past several years (Izvestiya, Feb. 3, 1992).

The fact that the number of experimental scientists who have left the former USSR is smaller than that of theoretical physicists is due to a weak international demand for "Soviet" experimental physicists. The technological backwardness in the former USSR has stifled the development of experimental science.

The goals of our study were twofold: to determine to what extent Russian physicists are interested in working abroad; and, to compare professional and socio-demographic characteristics between those who are interested in working abroad and those who are uninterested. We also sought to find the motivations of physicists' inclination to work abroad, the push and pull factors, the obstacles encountered in travel arrangements and likely countries of destination. Thus, the focus is on the determinants rather than on the consequences of migration.

This research was done in the framework of a joint Migration project with Rand (USA). 774 physicists were surveyed. Polling was held in May-June 1992. To meet the objectives of our study, we surveyed 10-15% of Russian scientists at several of Russia's leading research centers:

- four institutes of the Russian Academy of Sciences (RAN),
- the Institute of General Physics (IOFRAN), located in Moscow,
- the Lebedev Physics Institute (FIRAN), also located in Moscow,
- the Ioffe Physics Technical Institute (FTI), located in St. Petersburg,
- the Budker Institute of Nuclear Physics (IJAF), located in Novosibirsk
- and the Physics department of Moscow State University.

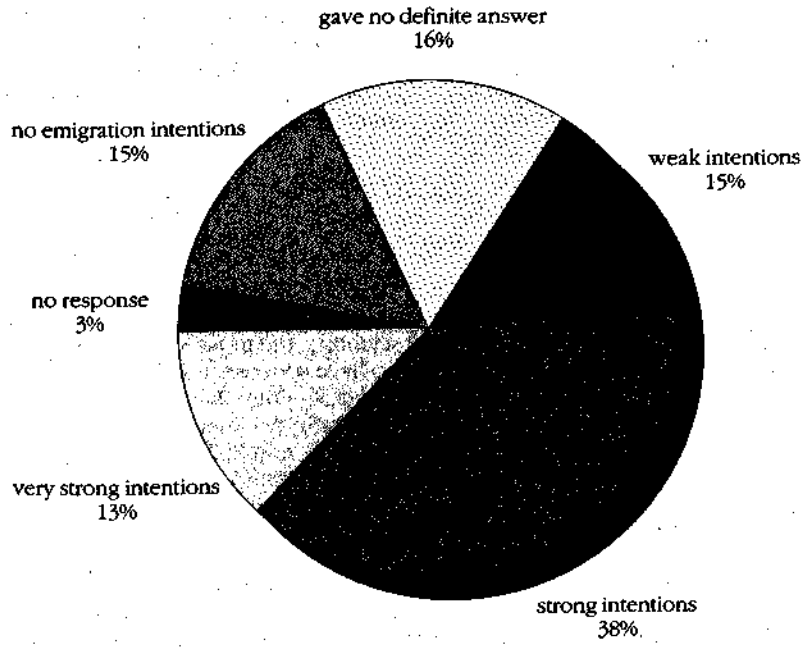
To ascertain the different levels of interest for an overseas' posting between physicists working in academic research centers and in institutions involved in nuclear programs, we also surveyed physicists at the Moscow "Kurchatov Institute", which was, until recently, closely controlled by the Ministry of Nuclear Energy.

The questionnaires were divided into four main sections: working conditions, wages and income, level of interest for overseas' work and personal and family characteristics.

2. *Findings: a brief overview*

Interest in working abroad was gauged by posing two questions: "Have you ever thought about going abroad as a means for improving your situation?" and "Would you be interested in a proposal to work abroad?" Depending on their answers to these two questions, respondents were divided into the following five groups (Figure 1):

Figure 1 – *Emigration intentions of physicists* (percentage)



1. People with a very strong interest in working abroad (those who gave a positive reply to both questions). Nearly all of these respondents indicated that they had taken some practical steps to realize their objectives; for example, by seeking information about visiting professorships in foreign universities, by sending their resumès to foreign research centers, by applying for fellowships and grants to finance their graduate studies abroad or by contacting foreign colleagues. 13% of our respondents are in this group.

2. People with a strong interest in working abroad (those who stated that they had occasionally thought of going abroad and who are prepared to take a job abroad, if invited). 38% of our respondents are in this group. Throughout this essay we categorize respondents in groups 1 and 2 as "respondents interested in working abroad".

3. People with a weak interest shown for an overseas' assignment (those who have not previously thought about going abroad but stated that they would be interested in a proposal to work in a foreign country). 15% of our respondents are in this group.

4. People who gave no definite reply to the two questions. 16% of our respondents are in this group.

5. People with no interest in working abroad. This group contains 15% of our respondents.

The survey indicated that interest in going abroad is quite widespread among Russian physicists. Our findings are similar to those obtained by the Russian "Brain Drain" Committee in Moscow research institute (Izvestiya, May 9, 1992).

Most scientists believe contract work to be the main mode of migration: 90% of those with strong emigration intentions (50% of the total number of those polled). Contract work in another country is clearly not the same as permanent emigration. It is well known, however, that having once signed a contract, Russian scientists often seek to prolong it and remain in the host country as long as possible, often for good.

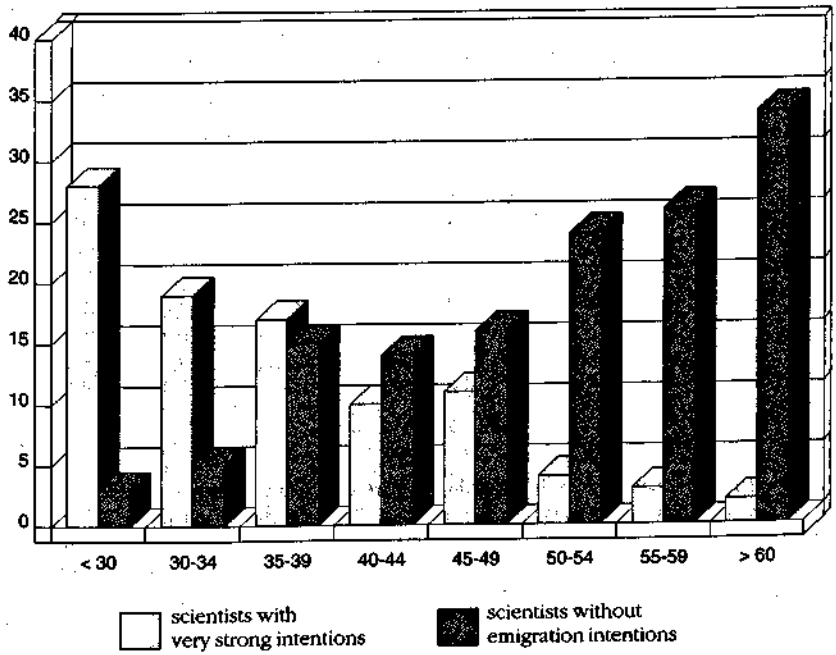
3. *Determinants of interest in working abroad*

3.1 *Age*

As to the level of interest in working abroad, age appears to be the most significant determinant. The younger the scientists, the more interested they are in working abroad. Two-thirds of those who have seriously considered working abroad are under 40, and one quarter is under 30. Only 7% of them are above 50 (Figure 2). In contrast, among those who have no interest in leaving only one-fifth is under 40, while only 2.5% are under 30 and half are over 50.

The fact that younger scientists are more interested in working abroad is further underscored by the following finding: four out of five scientists under thirty are interested in working abroad; almost two-thirds of scientists in their thirties are interested in working abroad. The interest declines significantly with age: only 45% of scientists in their forties are interested in working abroad, 30% of scientists in their fifties, and a mere 16% of scientists over 60. The percentage among older scientists is not negligible. In all age groups there is a desire to move to another country either for temporary or permanent work.

Figure 2 – *Emigration intentions of respondents by age (groups with contrary intentions)*



3.2 *Sex*

The majority of respondents are men: 85% of the total, a typical sex ratio within physics research institutes. And men (53%), rather than women (41%), appear to be more interested in working abroad.

3.3 *Marital status*

Marital status does not act as a strong factor in deciding whether to work abroad or not. For example, the percentage of married respondents interested in working abroad (52%) is almost equal to the percentage of unmarried ones (57%). Divorced and widowed are somewhat less interested in working abroad, but their lack of interest can be explained by their age rather than by their family status, since divorced and widowed respondents are, on average, older than married or single respondents.

Similarly, respondents (52%) who live in nuclear families do not show marked differences from respondents(57%) who live in extended families (i.e., with their parents).

3.4 *Number of children*

Interest in working abroad varies with the number of children in respondents' families. The most interested are respondents with no children (59%) and respondents with two children (53%); while only 47% of those with one child and 43% of those with three children are interested in working abroad.

The explanation for the relatively low interest of respondents with one child is that many of these respondents have very recently started families and their only child is more than likely a baby. These respondents are evidently preoccupied with their babies. Respondents with three children find it more difficult to go abroad because of the practical tasks involved in taking many children along or psychological reasons resulting from leaving a large number of children behind.

In this regard, it should be noted that practically all family respondents want to take their families or some family members with them rather going alone. This might be an indicator of the level of interest in Russian scientists in longer-term stays abroad and not in short-term contracts.

3.5 *Ethnicity*

79% of our respondents are ethnic Russians, 4,3% Ukrainians and 3,7% Jews. The share of other nationalities are negligible. Interest in working abroad is especially high among Russians. Some 53% of them feel they would improve their situation by going abroad, and 14% are ready to do so in the nearest future. The same expectations are found among Jews (48% and 7%), and among Ukrainians (33% and 6%).

3.6 *Location and affiliation*

Because our sample does not include institutions of higher education or ministerial research institutes from St. Petersburg or Novosibirsk, the only valid comparison of respondents interest in working abroad by location can be made for the institutes of the Russian Academy of Science.

Comparing how the respondents' interest in working abroad varies by location, we note that in Moscow based institutes (FIRAN, IOFRAN) 61% to 75% of respondents are interested in working abroad as compared to 58% in St. Petersburg and Novosibirsk institutions.

Taking Moscow separately and comparing Moscow institutes by affiliation, we note that the interest in working abroad of respondents from the "Kurchatov Institute", affiliated with Ministry of Nuclear Energy, is remarkably low. A mere 21% of the respondents from this institute have expressed interest in working abroad. This is in sharp contrast to the Moscow State University Physics Department, where almost 54% of the respondents expressed such interest, and to the Moscow institutes of the Academy of Science where, as mentioned above, 67% to 75% of respondents are interested in working abroad.

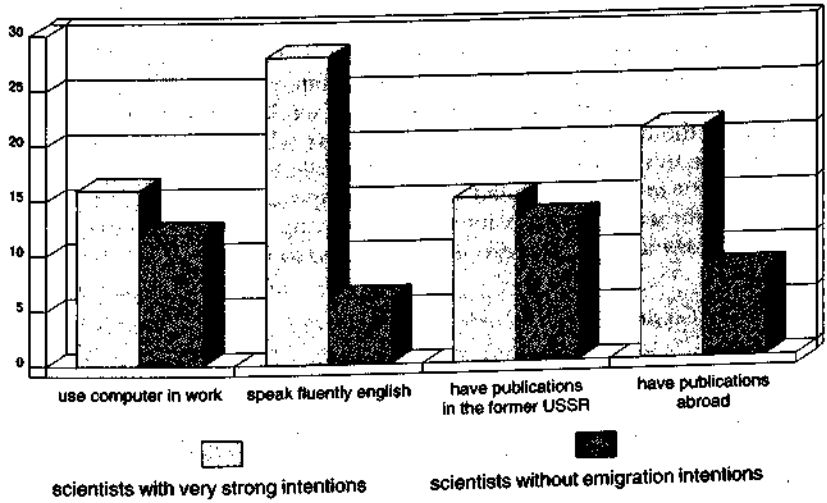
One explanation for the Kurchatov Institute's employees relatively low interest in working abroad is that, on average, they are older than the sampled

employees from other institutes. Another reason that the Kurchatov Institute's employees stand out from all the surveyed institutes (regardless of location and affiliation) is because their institute was closed to Western contacts and collaboration for a much longer period than other institutes. The Institute had a number of collaborative projects with Eastern European and the former "socialist camp" countries.

3.7 *Professional level*

Factors such as advanced scientific degree, computer literacy and command of foreign languages were used to evaluate professional capabilities of respondents (Figure 3). In addition, respondents were asked to rate their own professional competence on a scale from one to five.

Figure 3 – *Emigration intentions by professional level (groups with contrary intentions)*



3.7.1 *Advanced (post-baccalaureate) degree*

An advanced scientific degree is one of the basic, even if conventional, measures of professional competence. In our sample, 11,9% of respondents hold doctoral degrees and 44,5% are candidates to science degrees.

More than half of the respondents with only a bachelor's degree express very strong interest in working abroad.In the case of those with only baccalaureates, the respondents with a strong interest in going abroad are mainly young people who want to continue their studies in foreign universities.

Doctors of science, who are usually older, are less inclined to move, but their interest in doing so is high nonetheless: 6,5% are seriously considering the possibility of working abroad (as against 14,2% among the holders of a candidate degree); 26% have thought about this possibility (as against 37,5% among the candidates) and only 20,6% doctors of science state that they have no such interest (as against 14,2% among the candidates).

3.7.2 *Publications*

Those with interest in working abroad differ from other respondents: 91% of them have scientific publications to their credit, as against 71% of those who have no interest in working abroad.

80% of those with a serious interest in working abroad have been able to have their contributions published in journals abroad, as against 35% of the "stay-at-home". Almost one third of those who are seriously interested in going abroad contribute to foreign publications on a regular basis. It can also be noted that the list of preferred foreign destinations (which will be discussed elsewhere in this paper) coincides with countries where scientists have been publishing their article and/or books most often.

3.7.3 *Command of foreign languages*

Two-thirds of respondents have a working command of a foreign language, but only a few are fluent. Those interested in working abroad have greater fluency than the uninterested ones. 59% of those who command two foreign languages are interested in working abroad, while 28% of those respondents have no interest in working abroad. Almost all respondents who have a working command of three languages are interested in moving. Thus, the more languages the respondents know, the more likely they are to be interested in working abroad.

3.7.4 *Self-evaluation*

Almost all (85% to 90%) respondents gave themselves a top professional rating (4 or 5 on a scale from 1 to 5). There is no direct relation, however, between self-evaluation and interest in working abroad. In fact, people with the strongest interest in working abroad were less likely to give themselves the maximum grade. This probably reflects the fact that people with a strong interest in working abroad are primarily younger researchers, who do not view themselves as leaders in their scientific disciplines.

3.8 *Job attitudes*

Individuals who like their jobs are more likely to be interested in working abroad. 73% of those interested in working abroad like their jobs, whereas only 55% of "stay-at-home" like theirs.

At the same time, though, 36% of scientists interested in working abroad are dissatisfied with existing opportunities for using their experience and know-how at home, whereas only 16% of "stay-at-home" express similar dissatisfaction. This

suggests that many people interested in working abroad, even though they like their present jobs, are looking for further professional promotion.

3.9 *Working conditions*

Satisfaction with working conditions is another important jobrelated determinant of interest in working abroad. 54% of all respondents with interest in working abroad are dissatisfied with their working conditions. Only 20% of all "stay-at-home" are dissatisfied.

There are many reasons for dissatisfaction with working conditions. 50% of those who are dissatisfied with working conditions cite lack of office space and computers, one-third resent having to use outdated research equipment. 80% added red-tape to their list of complaints for being dissatisfied with their working conditions. Other reasons cited were absence of intellectual property laws and indifference of top industry executives to innovations and discoveries.

4. *Push and pull factors*

4.1 *Push factors*

When asked, "What are your reasons for considering leaving the country?", our respondents cited push factors shown in the table below.

Table 1 – *Main push factors indicated by respondents*

Push factors	Percentage of responses
Deteriorating living standards	77.7
Economic instability	69.9
Insecurity	54.4
Political instability	50.5
Desperate state of science (out-dated equipment, information inaccessibility)	4.9
Low popularity of science, non-existing incentives to upgrade one's skills	3.9

It should be noted that economic factors dominate the list of push factors. This calls for a brief discussion on scientists' incomes and wages.

4.1.1 *Wages and Incomes*

The economic crisis in Russia had strong effects on the living standard of scientists. Only 8% of respondents stated that their families' level of consumption has not declined over the last 5 years.

Almost 2/3 of respondents stated that their food consumption has declined and 95% of respondents cannot afford more expensive consumer goods.

Because both prices and wages are constantly going up in the highly inflationary economic climate prevalent in Russia, we compare wages to the poverty level rather than give absolute values for wages. At the time of survey - taking, the poverty level calculated by the Russian Ministry of Labor was 1,350 rubles per month.

Scientists who are interested in going abroad are even worse off. Since wages in Russian research institutes depend on position and length of service, young physicists usually find themselves at the lower end of the pay scale. Thus it is primarily young scientists who are interested in working abroad.

The following survey results illustrate the impact of wages on the level of interest in working abroad: 2/3 of those making less than 1.5 times the poverty level are interested in working abroad, half of those making between 1.5 and 2.2 times over the poverty level are interested in working abroad, 40% of those making between 2.2 and 3 times overthe poverty level are interested in working abroad, 28% of those making between 3 and 4.4 times the poverty level are interested in working abroad, and 36% of those making over 4.4 times the poverty level are interested in working abroad.

Similarly, the percentage of those who are not interested in going abroad increases in proportion to ascending wage categories. A mere 6% of those making less than 1.5 times the poverty level have absolutely no interest in working abroad as against 45% of those making over 4.4 times the poverty level.

Figure 4 – *Percentage of wage in respondents' total income (groups with contrary intentions)*

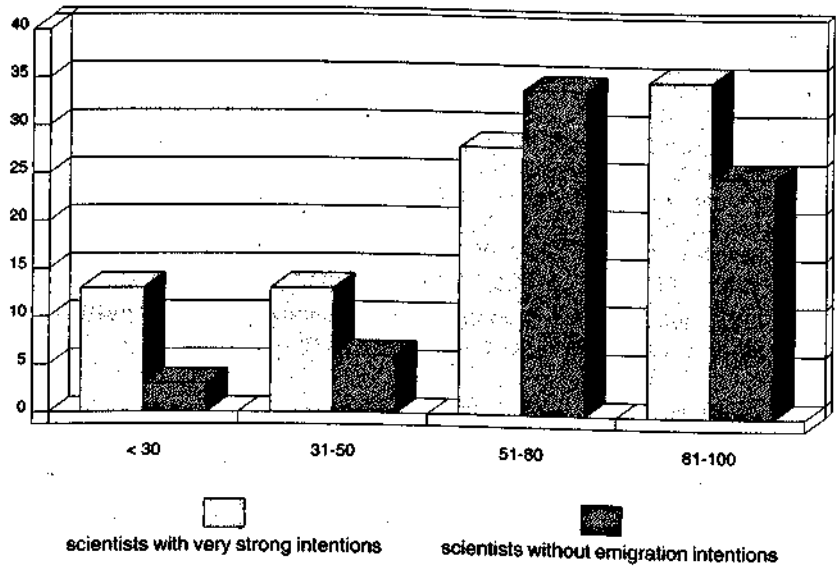


Figure 5 – *Respondents' estimate of probability of layoff in the institute (groups with contrary intentions)*

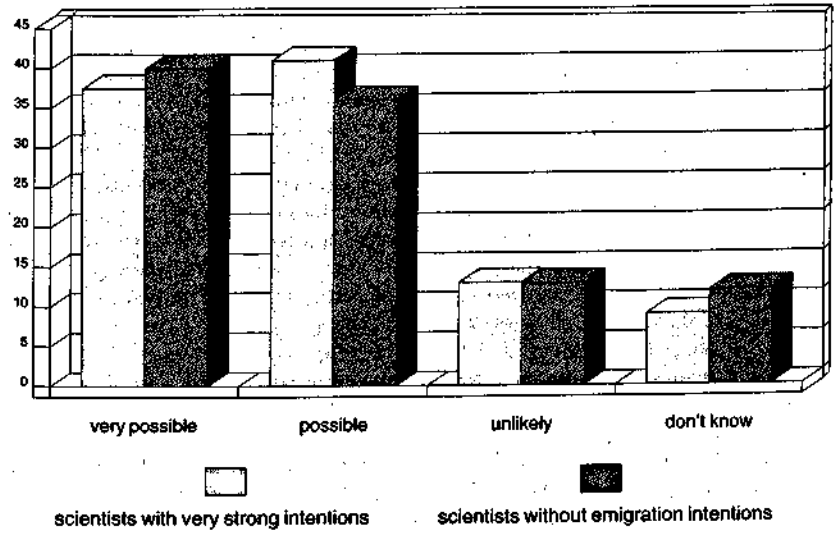
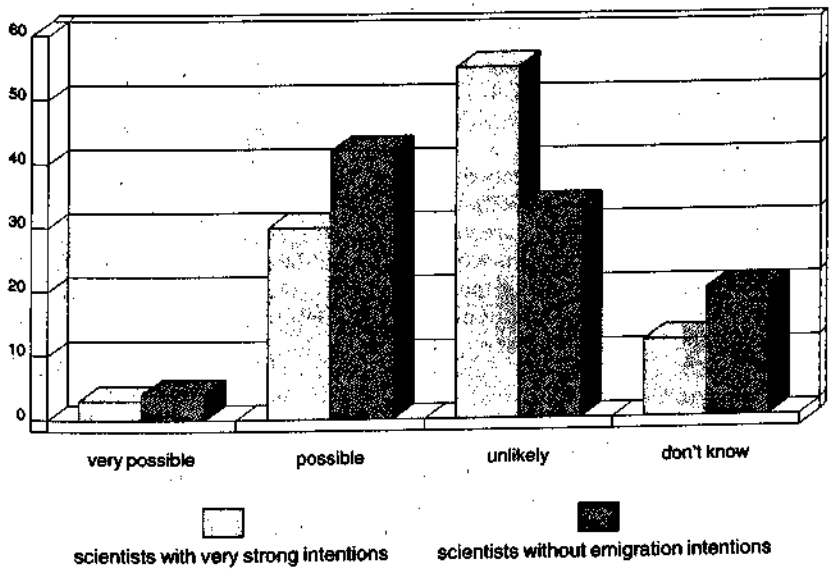


Figure 6 – *Estimate of scientists that s/ he will be laid off (groups with contrary intentions)*



It should be noted that only 40% of respondents said that their wage constitutes over 80% of their income (Figure 4). Most of these respondents declined to reveal their extra income sources.

Two thirds of respondents with interest in working abroad hold two or more jobs. Only 1/3 of these respondents found a second job in their professional field and the rest settled for second jobs outside their fields of competence. Half of those who are not interested in working abroad also hold second jobs, but these respondents were more fortunate in finding a job in their professional fields. 44% of them have done so.

It should also be noted that while standard packages of household appliances – refrigerators, color TVs, washing machines – can be found in families of those who are interested in working abroad and of "stay-at-home" families alike, the latter own more "luxury items". For example, the percentage of "stay-at-home" who own summer cottages (dachas), is three times higher the percentage of those who are interested in working abroad.

On the other hand, respondents interested in working abroad own more items that appeared on Russian markets relatively recently and that are associated with Western lifestyles - PCs and VCRs. The percentage of respondents interested in working abroad who own PCs and VCRs is 1.5 - 2 times more than the corresponding figure for the "stay-at-home". However, PCs and VCRs are not nearly as expensive as dachas.

No significant connection was found between housing conditions of scientists and their interest in going abroad. Most scientists enjoy good housing conditions. 78% of scientists interested in working abroad and 90% of "stay-at-home" live in separate, well furnished apartments.

4.1.2 *Threat of unemployment*

In addition to declining living standards, many respondents are concerned with the prospect of being laid off. Those who are interested in working abroad and the "stay-at-home" alike think that layoffs in their institute are a distinct possibility.

One-third of the respondents think that layoffs in their institute are "very probable" and another 40% think the layoffs are "probable". Only one out of nine respondents thinks that layoffs are very unlikely (Figure 5).

Those who are interested in working abroad differ in their concern about unemployment from the rest of the respondents (Figure 6), yet the threat of unemployment may be a contributing factor to scientists' uncertainty about their economic future.

4.2 *Pull factors*

The majority of those who are interested in working abroad (96%) are confident that foreign jobs can help them improve their living standards, and the prospect of high wages heads the list of pull factors mentioned by our respondents. The complete list of pull factors and the percentages of respondents citing each factor are shown in Table 2.

Table 2 – *Pull factors mainly indicated by the respondents*

Pull Factors	Percentage of responses
High wages	93.2
Good research equipment supply of R & D establishments	73.8
Foreign research contacts	59.2
Accessible research information	49.5
Wide variety of consumer goods	45.6
Good housing conditions	34.0
Implementation of scientific discoveries	1.0
Appreciation of scientists	1.0
General stability	1.0

It appears that most respondents interested in working abroad focus their attention on wage differences between Russia and abroad and see working abroad as an opportunity to obtain better compensation for their work. They are also attracted by the prospect of continuing their professional development in better conditions. Availability of consumer goods and housing conditions does not rank as high.

5. *Factors that could keep scientists at home*

Respondents were asked to identity the "hold factors" that could keep people in the country. The majority did not reply to this question. The responses of those who did are shown in Table 3.

Given the responses to questions on push and pull factors, it is hardly surprising that wage increases were mentioned by the largest number of respondents.

Table 3 – *Staying home reasons as indicated by the respondents*

Hold Factors	Percentage of responses
Higher wages	23.8
Growing popularity and stable financial support of science	15.8
Upgraded living standards	9.9
Social and economic stability	9.9
Improved working conditions	7.9
Political Stability	5.9
Foreign research contacts	5.0
Foreign contract job	4.0
Other factors	14.0
Reincarnation of social safeguards	1.0
No response	40.0

When asked about obstacles to working abroad, most respondents mentioned, as the most critical factor, leaving relatives and friends behind and travel costs:

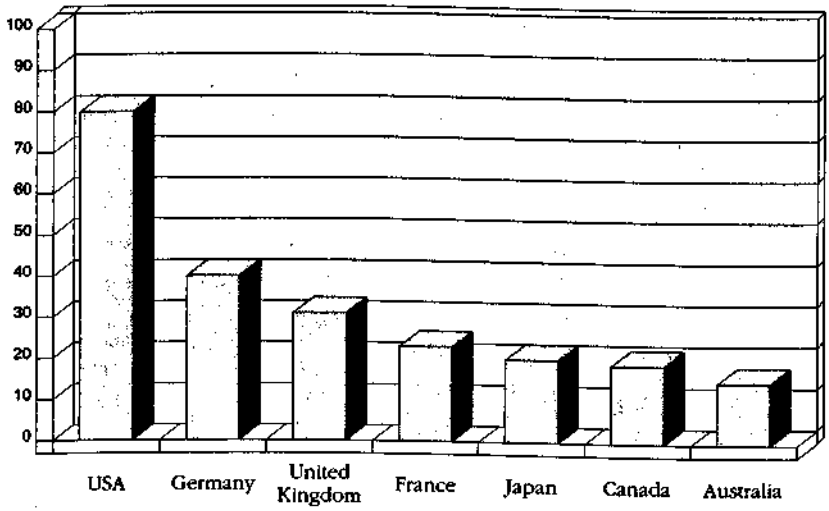
* Separation from friends and relatives (32.7);
* Expensive plane/train tickets (29.7);
* Difficulties in acquiring an exit visa (10.9);
* No financial support (10.9);
* Inefficient re-entry laws (9.9);
* No place to live abroad (5.9);
* No contract and/or invitation (5.9);
* Difficulties in acquiring an entry visa (4.0).

It should be noted that even though the laws governing entry and exit of individuals have been liberalized and Russian citizens are free to return home after travelling abroad, some 10% of the respondents are unsure that they will be allowed to return home after working abroad.

6. *Preferred destinations*

When asked in which country they would prefer to work, most would-be emigrants cited the U.S. and highly developed Western European countries (Figure 7).[1] The U.S. was mentioned by 80%, Germany by 40%, the U.K. by 31% and France by 23%.

Figure 7 – *Destination countries*



[1] The respondents were given an option to cite more than 1 country.

Japan, Canada, Australia were mentioned by 20%, 18% and 15% respectively.

When asked in which countries they would not be interested in pursuing an overseas' assignment 38% of would-be emigrants mentioned the Middle East, 33% Africa, 13% Asian countries, 15% Eastern Europe, 11% Latin American countries and 4% Soviet successor states other than Russia.

7. *Conclusions*

1.13% of all of our respondents are ready to go to work abroad as soon as the opportunity arises and another 38% have expressed interest in working abroad. Hence, over half of the respondents are interested in working abroad. Only 15% of the respondents are definitely not interested in working abroad.

90% of those interested in working abroad want a temporary contract. Only 3% intend to take up permanent residence abroad.

2. A scientist interested in working abroad is most likely to be a young man, a graduate of a prestigious university, well-versed in computer programming, fluent in at least one foreign language. He is most likely to be a Muscovite working in an institute of the Russian Academy of Science.

3. The following findings underscore the importance of age as a determinant of interest in working abroad: 80% of respondents under the age of 30 expressed interest in working abroad. Almost two thirds of respondents in their thirties are interested in working abroad. This interest is lower among older respondents. Only the most highly qualified middle-aged respondents are interested in working abroad.

Marital status does not influence interest in working abroad: married respondents consider working abroad as often as single respondents. Those with a strong interest want to take along one or more relatives or the entire family.

4. Would-be emigrants are dedicated to their profession; more than a third of them are dissatisfied with current opportunities for professional development at home and hope that foreign jobs will not only bring them high wages but also opportunities to improve as professionals.

5. Wages and living standards strongly affect a person's interest in working abroad. Less prosperous but more resourceful respondents who continuously seek extra sources of income make up the large portion of those interested in working abroad.

6. Would-be emigrants are primarily interested in working in the U.S. and highly developed European countries (Germany,France, Great Britain), but many would consider jobs elsewhere, including countries ruled by military regimes.

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Education, identity and migration: the case of young highly-educated Irish emigrants*

1. *Introduction*

Recent debates about new forms of skilled migration originating in advanced capitalist economies have largely been about their causes and the institutional forces that structure them (Findlay and Garrick, 1990; Salt, 1984). Comparatively little attention has been paid to the consequences of this type of migration for the migrants themselves; to their patterns of living and socialisation in the host society and to their attitudes with regard to their own migration and identity.

This is surprising as the social experience of migrants in general has been a fertile field for research both recently (for richly-referenced overviews see White, 1993a; White, 1993b) and in the longer-term (see, for example, O'Connor, 1972). Similar literature on skilled and highly-educated migrants is much more restricted (for an exception see Glebe, 1986). Yet, given the direction of the trends forecast for the educational and occupational composition of migration flows (Salt and Ford, 1993), this topic is likely to assume greater importance in the immediate future both for migrants themselves and for population-receiving societies. The central question is whether contemporary migration flows differ from those of the past not only in their composition, but also in the degree to which they are socially assimilated and in the type of communities they form whilst abroad.

One interpretation is that contemporary skilled and highly-educated migrants will be more easily assimilated, everything else being equal, than past migrants. This supposition seems plausible on three counts. Firstly, increased levels of education in both sending and receiving societies may be assumed to have weakened local cultures and traditional social ties such as kinship. Mechanisms for the erosion of tradition, and its hypothesised replacement by a so-called mass society (Clarke, 1984), might include the rise of credentialism (Musgrove, 1963), and common values instilled by a global (or at least continent-wide) mass media.

* The research on which most of this paper is based was conducted in 1988-91 when both the authors were at the Department of Geography, Trinity College Dublin. Grants from the Trinity Trust and the Bank of Ireland are gratefully acknowledged.

Secondly, and allied to this process, is the increase of the numerical importance of the middle classes and of those occupations suitable for the highly skilled and highly educated. The creation and expansion of these social groups and the concept of the occupational career also implies a decline in traditional cultural and social identities as migrants assume either the role of "Organisation Man" as they pursue spiralist careers or simply migrate as a corollary of social mobility (Fielding, 1992). Either way, migration of the skilled and qualified may have the result of lessening links to localities and homogenising social differences amongst migratory elites (Richmond, 1981).

Thirdly, improved transport and the manipulation of time and space might also be hypothesised as reducing the power of local cultures. Space-time compression, the advent of the global village and the elimination of the friction of space as capital and labour circulate at an ever more furious pace suggest that emigrants are merely one more mutable element in a flexible world. The compression of space and time and the speed of innovation and investment make migration not only necessary as part of the world system but also imply that the social experience of migration is changed, as the migratory elite stock their minds with the same global-scale "cultural images".

To some extent, all three classes of processes identified above may be two-edged swords with regard to the assimilation and behaviour of migrants. On the one hand, these processes can be interpreted as leading to greater socio-cultural homogeneity for certain migrants as greater convergence of cultural forms takes place between advanced societies. On the other, increased levels of education may make some, at least, more conscious of their socio-cultural identity and therefore less likely to be easily assimilated by a host society; the rapid turnover of personnel implied in the careerist migration of the "New Middle Classes" may also mean that assimilation is improbable given that these migrants are mainly short-term transients. The idea of space- time compression might also mean that some, or perhaps many, migrants do not integrate with their host society because the possibility of easily-made journeys home, and possibly shared cultural concepts, act jointly to make the assimilation of the deeper cultural and social values of the receiving nation unnecessary.

These hypotheses are plainly problematic when trying to explore and interpret the experience of recent migrants. This paper, however, attempts to make some suggestions about their validity by looking at the experiences of young highly-educated Irish emigrants. These migrants are a closely defined group; it may be impossible to generalise from them. Despite this, they may prove to be good examples by which the changing social nature of contemporary migration can be examined. As highly-educated "Young Europeans"[1] one may assume that they are migrants of a type that is a significant component of contemporary skilled population flows. At the same time, in moving to Britain,

[1] The "Young Europeans" was the slogan of the Irish Industrial Development Authority and referred to the pool of skilled labour that would attract foreign companies. Unfortunately many of these graduates emigrated, often to Europe, and became "Young Europeans" in a literal sense.

continental member states of the European Union, and other advanced nations such as the United States, they are following past generations of Irish emigrants who have moved within a world area that shares a broadly similar European culture. Because of these factors this emigrant group might be argued to provide a useful test of the hypotheses advanced above; because of their educational level, cultural similarities (compared with many migration flows, for example those from the less-developed to the developed world)and long-established migration links, highly-educated young Irish, of all potential migrant groups, could be expected to be the among the most easily assimilated.

We look at various aspects of this "new" highly-educated migration in two parts. The next section of the paper begins this examination by considering the nature of contemporary Irish graduate migration using data from four surveys of Irish graduate emigrants carried out by the authors. These help us to understand the relationship between educated labour and the Irish and international labour markets. In conjunction with other information on the migratory experience of Irish graduates these data sources suggest the ways in which this recent migration flow is "traditional" or modern (or even post-modern). Graduates are one aspect of the "new" migration of the highly educated; the survey results that are discussed only show the factors that structure this particular migration stream and illustrate its general form. Therefore, these results are augmented using the examples of recently-established Irish communities in the European Union to illustrate the social behaviour of "new" emigrants and to throw some light on the degree to which they are being assimilated.

2. *Irish graduate emigration: patterns, perceptions and mechanisms*

The first fact to establish is the high propensity to emigrate of Irish graduates in recent years. This is easily done with reference to the "first destination" data issued annually by the Higher Education Authority (HEA). Figure 1 records the proportion of Irish graduates who had emigrated nine months after graduation for the period 1980-91 (note that the year on the horizontal axis of the graph refers to year of graduation and not the year of the survey). The graph shows an upsurge in the percentage of graduates abroad throughout the 1980s, rising from 7.6 per cent in 1981 to 26.1 per cent for 1988 graduates. Since the plateau of Irish emigration during the late 1980s (corresponding to good job opportunities in Britain during the "Thatcher-Lawson boom"), the rate of emigration declined in the early 1990s, falling to 19.0 per cent for 1990 graduates and 15.5 per cent for the 1991 cohort, probably as a function of the recession in the British labour market.

Other HEA data indicate that in Ireland the education system is led, in some subjects, by the overseas rate of return to education (when education is seen as a private investment). In Table 1, some simple data are presented that compare the emigration rates for certain faculties at first destination with the demand for these courses, as measured by the Irish universities' Central Admissions Office records points necessary to secure entry to Trinity College Dublin and University

College Galway.[2] Clearly, the high demand for engineering is matched by the high rate of emigration. The evidence is far from conclusive, but can be supported by qualitative information. Our discussions with groups of undergraduates of Trinity College Dublin revealed that some course choices were made with emigration in mind and especially with an awareness of financial opportunities abroad. An engineering degree is seen as a route to high foreign earnings. The implications of this are that emigration and labour market signals from abroad play an important part in influencing educational and career choices amongst Irish students.

Table 1 – *Points needed for entry to faculties in two Irish universities and emigration rates for graduates 1989-90*

Faculty	Trinity College Dublin	University College Galway	Emigration rates (%)
Engineering	225	65	44.1
Science	190	40	17.2
Commerce	195	36	19.5
Arts	165	32	16.5

Source: First Destinations of Award Recipients in Higher Education: Dublin, HEA; University Records (note that the points accounting system differs between the two universities)

We now move on to our own survey data. To recap, four surveys were mounted, the first three of which were based on postal questionnaires sent to graduates of Irish universities:

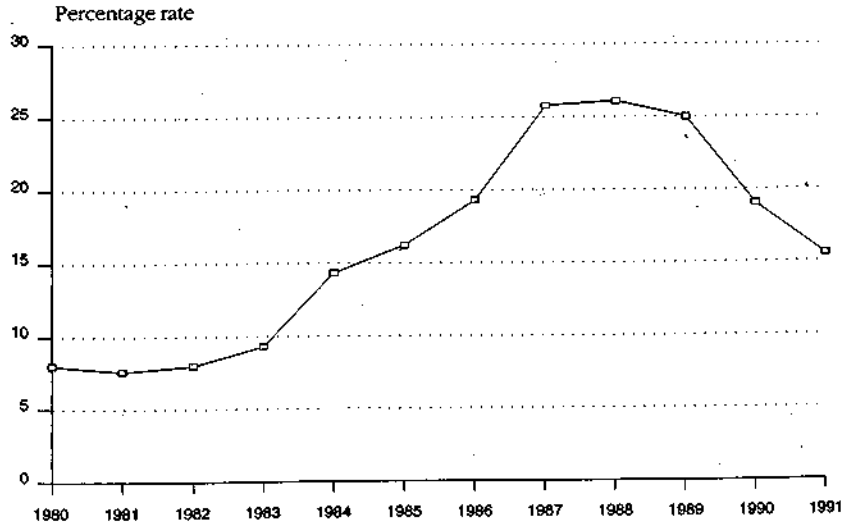
1. In July 1989, 80 University College Galway graduates were surveyed with the help of the UCG graduate association in London. A response rate of 34 per cent (27 replies) resulted. This was partly in the nature of a pilot for further survey work.

2. During November-December 1989, 980 questionnaires were sent to a random sample of graduates from five Irish universities – Trinity College Dublin (TCD), Dublin City University (DCU), the University of Limerick (UL), University College Cork (UCC), and University College Galway (UCG). The response rate for this survey was 39 per cent (383 replies).

3. In February 1990, 230 questionnaires were posted to a "booster sample" of TCD graduates known to be abroad (80 questionnaires each to Britain and continental Europe and 70 to North America). The response rate was 36 per cent or 83 replies.

[2] Entry into Irish universities is highly competitive and each faculty and course has a quota of places. The demand for these places is rationed out by a market system of points achieved by students in their final-year school exams. The most popular courses are those with higher point thresholds.

Figure 1: *Graduate emigration at "first destination" 1980-91*
(Primary degree graduates only)



4. A questionnaire to Irish-based companies on their graduate recruitment practices was mailed to 100 firms drawn at random from industrial sectors known to employ a high proportion of graduates; 58 replied. At the same time (April-June 1989) a similar, though not identical questionnaire, was mailed to 30 British firms known to be active in recruiting graduates in Ireland. Once again, a similar response rate was achieved (57 per cent, 17 replies).

The main survey – the second of those listed – collected information not only on graduate emigrants but also on spatial mobility patterns of graduates within Ireland. The results of this survey have been published elsewhere (King and Shuttleworth, 1995). In the present paper we therefore concentrate on the first and third surveys which were specifically targetted at emigrants, contextual information from the fourth survey plus some hitherto unpublished data from the main survey.

From the main survey – which sampled graduates leaving university in the mid-1980s – it emerged that roughly one quarter of graduates went abroad for their "first destination" after graduating. This figure matches closely the peak rates of emigration recorded for the mid-to-late 1980s in Figure 1. Table 2 presents further data on subsequent moves after first destination: these are denoted as Loc 1 (first destination), Loc 2 (second destination) and so on. The table is basically a series of 2 x 2 crosstabulations[3] of movements between Ireland and abroad

[3] Note that a change in place of employment need not equal a change in the place of residence. Hence the "job" data are not the same as the "loc" data.

covering the five years or so between graduation in the mid 1980s (1983-86) and the survey date (late 1989/early 1990). The data show the importance of international moves as a percentage of all moves. What is particularly noteworthy is the high degree of mobility and interchange that can be seen, including a certain quantity of return moves (origin abroad, destination Ireland) at all stages.

Table 2 – *International flows of graduates between successive places of residence: Ireland and abroad*

Origin	Destination		
	Ireland	Abroad	Total
Loc 1 to Loc 2			
Ireland	94	82	176
Abroad	24	32	56
Total	118	114	232
Loc 2 to Loc 3			
Ireland	45	26	71
Abroad	33	48	81
Total	78	74	152
Loc 3 to Loc 4			
Ireland	16	16	32
Abroad	17	22	39
Total	33	38	71

Source: Authors' survey data (n=232).

The way in which this theme of mobility is related to employment change is explored in Table 3, which shows that graduates who go abroad tend to experience slightly shorter lengths of time in each employment (Job 1, Job 2 and so on) than those who remain in Ireland. It is, therefore, clear that recent Irish graduates are very mobile both spatially and in the labour market and are likely to stay at any place of residence or employment for an average of only a year or so. This contrasts with the poorly- educated "labour migrants" of the past who emigrated to industrial jobs in Britain or elsewhere on a long-term basis, although there is some similarity with the "to and fro" mobility of many Irish men who worked in the building trades in Britain. Graduates' spatial and employment hypermobility clearly has implications for their social assimilation.

Interesting patterns are noticeable by broad world area. In the case of return moves to Ireland, most had arrived from continental Europe. The majority of moves with British origins took place wholly within Britain, though moves from Ireland to Britain remain consistently important. This indicates that once a job is held in Britain, it is likely the next job will be there. Britain and North America are "traditional" destinations for Irish migrants; Continental Europe is not and we will therefore examine later the social and occupational character of these "new" Irish communities in European cities.

Table 3 – *Average duration of job stays in Ireland and abroad amongst a sample of graduates (months)*

	Job 1	Job 2	Job 3	Job 4	Job 5
Ireland	26.2	19.0	15.7	12.3	12.5
Abroad	24.5	15.5	14.3	11.8	8.5

Source: Authors' survey data (n=383).

We move now to analyse the mechanisms of graduate emigration. The openness of the Irish labour market means that graduates are able to move freely, at least to Britain and EU states. The Irish have always had the right to live and to work in Britain; this was extended to "Europe" when Ireland joined the European Community in 1973. Another aspect of the Irish labour market's openness is the recruitment activity of foreign companies and private employment agencies based abroad but operating in Ireland. A key question is whether foreign companies act in a predatory way by targetting Irish graduates for recruitment, thereby creating a "brain drain". Related to this is the issue of whether there is a "leakage" of graduates from Ireland via the internal labour markets of multinational companies with bases in Ireland. Aggressive head-hunting of Irish graduates is part of the mythology of the Irish brain drain often discussed by the Irish media and politicians. Another oft- quoted myth is the belief amongst many people in Ireland that its graduates leave because of high personal levels of income tax.

The general conclusion of our survey work, not only of graduates' motivations of which more later, but also of the recruitment policies of foreign firms operating in Ireland, is that the numbers of graduates who go abroad as a direct result of the actions of foreign companies are relatively small as a proportion of all graduates emigrating. Whilst it is true that many companies based outside Ireland are active in the university "milkround",[4] the quantity of Irish graduates recruited in this way has never been large. Such companies merely regarded Irish universities as worth visiting as an extension of their British university operations. Many companies have been visiting Ireland since the 1970s, and ICI started visiting Dublin in the 1950s. This challenges one of the central myths of the "brain drain" phenomenon; that the actions of foreign companies are a dominant cause of the recent upsurge in Irish graduate emigration.

However, there are two pieces of evidence that modify this general conclusion. Some personnel and recruitment officers of British companies mentioned that Irish employees were particularly desirable because they were willing to be more geographically mobile (eg. by moving to London) than British graduates recruited, for example, from Scotland and Wales. This view of Irish mobility is probably related to the fact that many Irish graduates expected to move to Britain and to the strong personal and cultural ties between Ireland and many parts of Britain given the presence of long-established Irish communities.

[4] The "milkround" refers to the annual visits by recruitment and personnel teams from large employers to universities to interview final-year students.

Secondly, one or two continental European corporations have been much more directly involved in Irish graduate recruitment. The interests of Siemens and Philips in recruiting Irish graduates became well-known in Ireland in the mid-1980s, and colonies of young Irish engineers and scientists became established at Erlangen in Germany (associated with Siemens) and at Eindhoven in the Netherlands (Philips). Our research into the circumstances surrounding the Philips involvement in Irish graduate recruitment revealed, however, that the traditional Irish skill at personal networking played a more important role in setting up this migration link than impersonal recruitment policies. The Professor of Microelectronic and Electrical Engineering at TCD had previously worked for Philips. In the mid-1980s he sent some of his undergraduate students on summer placements with Philips in Eindhoven. In an era of rapid expansion in the late 1980s Philips recruited many TCD graduates, many of whom had previously had summer jobs in Eindhoven. Information flows between Eindhoven and Irish universities grew via contacts between students and former students and a classical chain migration developed. For their part, Philips found that the Irish graduates were good employees, more flexible and ready to move than their British counterparts and more willing to go some way toward integrating into Dutch society. Because of their youth (compared to graduates from Holland and other countries),[5] and because they lacked experience (as they were recruited straight from university), Irish graduates often filled more junior positions that graduates from other countries.

Another aspect of the analysis of why graduates migrate concerns the opportunity structure for graduates in Ireland. It can be argued that, because of its status as a small, peripheral and formerly colonial economy, Ireland has a "truncated" labour market in which the number of high-grade managerial and research posts are limited, and certainly less than the level demanded by a youthful population whose participation in higher education expanded during the 1980s (Breathnach and Jackson, 1991; Shuttleworth, 1993). Relatively few Irish companies recruit graduates annually; often graduate recruitment by Irish employers is small-scale and sporadic. Many of our graduate respondents indicated their dissatisfaction with this haphazard approach to recruitment by Irish employers. Many Irish companies, for their part, suffer from the loss of their graduate employees, who, after working for some time in Ireland, decide to go abroad.

These rather different perceptions of the causes of graduate emigration are revealed by questionnaire data from Irish employers and UCG graduates in London. High personal taxation is seen as being the single most important cause of graduate emigration by employers; this reflects the assumptions that have become dominant in debating the nature of graduate emigration in Ireland. Employers seem only weakly aware of the internal failures of the Irish labour market with only about one-fifth of the 41 respondents who answered this part

[5] Most university students in Ireland graduate aged 20-21, significantly younger than in most European countries.

of the questionnaire acknowledging the lack of training and promotion opportunities in Ireland and then only mentioning them as subordinate to the tax situation. On the other hand, among individuals who had already emigrated, taxation was not seen to be of primary importance. None of the UCG sample mentioned it as a first-ranking factor; it was always subordinate to employment and other career-related factors.

3. *Motives for emigration*

The analysis in the previous section of the paper raises three questions which will now be dealt with in more depth. Answers to these questions also bear, directly and indirectly, on the broader questions raised about the nature of recent Irish migration and assimilation at the beginning of this paper. The three questions thrown up by the previous section are as follows. First, there is the suggestion that Irish graduate migration occurs through relatively informal channels. The numbers going abroad through targetted recruitment by foreign companies are relatively few compared to the total outflow. Other reasons, and other mechanisms, predominate.

A second key point concerns the role of (for want of a better word) "culture". Employers in Britain and Europe identify the Irish as being far more mobile and flexible than other nationalities. The notion that the Irish have an "international" tradition or a "culture of mobility" deserves further attention. This also impinges on mechanisms of migration, including chain migration, and on assimilation processes at the destination.

Finally, the mismatch between employers and graduates as regards reasons for migration suggest the need to discover, on a larger and more representative scale, the reasons graduates have for leaving Ireland and how they interpret and evaluate their moves.

In this part of the paper, we shall report some of the data on reasons for emigration culled from the main survey of Irish graduates, together with a selection of respondents' often highly revealing qualitative remarks entered in response to open-ended questions. Of course, to ask people to articulate on a questionnaire the reasons why they emigrated is a research methodology full of potential pitfalls: respondents may remember only selectively, be subject to post hoc rationalisation, give an "expected" answer, or just simply lie. Our questionnaire attempted to limit these well-known dangers by surveying a large sample, thereby eliminating the importance of "rogue" responses, and setting out a comprehensive list of reasons, chosen after extensive piloting, which respondents were asked to rank. These reasons included both those suggested by "conventional wisdom" and those which emerged in detailed pre-survey discussions with Irish graduates and students in various settings.

Table 4 gives a detailed breakdown of the responses grouped under three broad categories, both in terms of disaggregated motives, and in terms of ranked reasons. The data in the table essentially speak for themselves, so only a few brief comments will be made. The most commonly specified employment reasons were the simple ones of job offers abroad, higher wages abroad, and difficulties in finding satisfactory work in Ireland. The precise means of obtaining

overseas jobs will be outlined presently. Intra-company employment transfers were the least cited employment reason for leaving Ireland; thus, it seems that Irish graduates are less affected by movements within the labour markets of multinational firms than other European nationals (cf. Salt, 1984, 1988, 1992; Salt and Ford, 1993). The high taxation factor only emerges only as a second or third ranked motive, again contradicting conventional wisdom. The educational and personal/other categories of reasons include both mechanistic factors such as availability of post-graduate places and the presence of friends/relatives abroad but also factors which give a more personal and negative impression of Irish life – hence the importance of emigration decisions related to a broadening of outlook and the restricted nature of society in Ireland. Interestingly, these last two factors were cited most often by females, reflecting perhaps the continuing chauvinism of Irish life.

Table 4 – *Ranked individual reasons for leaving Ireland by graduate respondents*

Reason	First	Second	Third	Total
Employment group:				
Job offer abroad	35	25	5	65
Problems finding work in Ireland	31	24	10	65
Higher wages abroad	11	19	22	52
No challenging work in Ireland	18	20	13	51
High Irish taxes	9	16	21	46
Transfer abroad by firm	8	1	0	9
Other	25	3	27	55
Education group:				
Offer of post-graduate place abroad	9	9	3	21
No course available in Ireland	4	4	8	16
Broader outlook	4	4	8	16
Reputation of foreign institution	6	4	5	15
No funds	4	2	1	7
Other	5	2	5	12
Personal group:				
Lifestyle abroad	49	13	8	70
Restrictive Irish society	5	15	9	29
Friends and relatives abroad	5	10	12	27
Spouse moved abroad	6	2	1	9
Other	12	14	8	34

Source: Authors' survey data (n=383).

The sense of adventure and desire to experience a new lifestyle, coupled with some negative views of Ireland (Table 4), can be re-interpreted with

reference to respondents' actual experience of living abroad. Graduates generally saw their time overseas in positive terms having had little difficulty in adapting to life abroad, having better living standards, and having experienced new ways of life.

The role of personal and cultural factors can be elaborated in a more direct sense by a few quotes from the returned questionnaires.

"I found that the majority of friends from my faculty and year have emigrated".

"Ireland is a very small and provincial country".

"A major factor that made emigration easier was the wholesale displacement of my network of friends from Dublin to London".

Other comments illustrate the truncated nature of the Irish graduate labour market noted earlier.

"No Irish institution came to my college with any reasonable offers of suitable work for my degree".

"Ireland seems to suffer because London is so near".

"Latest techniques and their applications are much more likely to be used in the UK".

Further light can be shed on the motives and mechanisms of job-related emigration by showing how graduates found each job they had abroad. Table 5 presents this information, first for the first job abroad and then for subsequent foreign jobs (which could involve emigration from Ireland or a move between jobs abroad). The majority of first jobs were found by three channels: university careers offices, press advertisements, and personal contacts. Direct approaches by employers were unimportant. This patterns persists for later jobs save that the relevance of careers offices decline and direct approaches by employers become more important. Looking at the "total" column in Table 5, the two most important channels through which overseas jobs were found are press advertisements and personal contacts. Too much should not be read into these results as mechanisms of emigration since many migrants (about 50 per cent) made their move abroad without first finding a job there implying that job search began after emigration had taken place. This suggests that graduate emigration from Ireland is largely unstructured, based on individual actions and contacts, and does not take place in a corporate environment.

Table 5 – *Graduates' means of finding jobs abroad*

Means of finding job	First job	Subsequent jobs	Total
Direct approach to or by employer	6	20	26
Careers office	17	4	21
Employment/recruitment agency	14	44	58
Press advertisement	22	40	62
Personal contacts	23	39	62

Source: Authors' survey data (n=232).

4. *Evidence from the "booster survey"*

This discussion, based on 83 returned questionnaires from a stratified random sample of TCD graduates with foreign addresses (but excluding foreign nationals), was designed to act as a check on the results of the main survey and to provide a separate data set of known graduate emigrants. It was different from the main survey in two main respects: the respondents were known to be abroad at the time of the survey and it was restricted to 1983-86 graduates.

In general, the results of the booster survey confirm those of the main survey. They show a great deal of to-and fro movement both between Ireland and abroad and amongst foreign destinations. Sequences of moves were often more elaborate than in the main survey since a longer time had elapsed since graduation in many cases. When employment characteristics were examined, two areas, engineering and teaching/lecturing, were particularly important. Both of these careers provide ample opportunity for international mobility; indeed progress up the career ladder in these occupations often requires geographical mobility either as part of the job or as a means of moving from one status to another. In line with the main survey, the acquisition of experience was a powerful motive for working abroad.

One extra piece of analysis for the booster sample, that was impossible using data from the main survey, was the crosstabulation of emigrant destination (by broad world area) by gender and degree subject. This suggests that graduate emigration is differentiated by destination and hints that the nature of emigration, and type of emigrant, depends on the world areas visited. The clearest indications (and we stress that they are only indications because of the small sample size) are the high proportion of graduates in financial services in Britain and the high proportion of females with language degrees in continental Europe.

5. *Discussion*

Having established the main structural conditions, mechanisms and motives surrounding recent graduate emigration from Ireland we now look at some of the social characteristics of the new communities established abroad, paying particular attention to cases from continental Europe.

Although no research on the Irish in Europe has yet been completed which is comparable in its thoroughness to Jackson's (1963) classic work on the Irish in Britain, a number of small- scale studies have recently been published whose findings are sufficiently consistent to enable us to sketch in some broad outlines, the new Irish migration to Europe and to identify both its new and traditional features. The most important piece of work is MacEinri's (1989, 1991) research on the Irish in Paris; smaller investigations have been carried out by Kockel (1993) on the Irish in Munich and Stuttgart and by King and Arbuckle (1992) on the Irish in Rome.

MacEinri is quite clear that the "Paris Irish" (numbering an estimated 6,000 in 1990 but increasing at a fast rate) are an example of a new phenomenon:

migration led by a sub-group (the well-educated urban middle classes) who were not significant as leaders in earlier phases of Irish mass emigration.[6] The fact that the Irish community in Paris is "graduate led" is perhaps the main factor accounting for the relative ease by which the cultural barriers to Irish migration to France have been overcome. Another factor is the specifically cultural role of European integration, lessening cultural unfamiliarity between countries. The positive image of the Irish in Europe has helped to speed their integration.

Although these forces might be regarded as quite new, the mechanisms by which migration is reproduced – namely the importance of networking processes – are traditional and similar to those found in Irish emigrant communities in the Anglophone world. In the decisions to locate in Paris, of particular importance was the presence of friends already there (MacEinri, 1989). Such friends were able to help with both finding accommodation and suitable work – language teaching, nursing, au pairing and translating. By their very nature these types of employment involve intensive contacts with French people, hastening the integration of the Irish. MacEinri (1991, p.35) also notes that the "pioneer" community of graduates, intellectuals and professionals have now reached a self-sustaining level and so begin to evolve a broader class base. Further rapid growth, perhaps to 20,000 by the late 1990s, is predicted, but more importantly, in terms of the questions posed at the beginning of the paper, are the conclusions about rapid assimilation and a wide educational and cultural base for assimilation.

We would re-interpret MacEinri's findings in a somewhat more complex manner. What the Paris Irish demonstrate is the ability to look simultaneously inward and outward: to exemplify "closure" by their extraordinary talent for social networking, and to launch on a process of rapid assimilation with the host society by their cross-national friendships, work connections and openness. Such an interpretation recalls the belief of the poet Seamus Heaney (in Kearney, 1992) that the Irish were born with a natural capacity to live in two worlds at one time, to acknowledge the claims of two conflicting truths without having to choose between them. Such an acknowledgement of ambiguity is nowhere more present than in the mind of the emigrant.[7]

It is also important to realise that, consistent with migration processes in the post-modern era, the highly-educated communities of Irish are by no means homogenous as far as their background and assimilation is concerned. King and Arbuckle's (1992) study of the Irish in Rome, where there are around 1,000 Irish citizens according to the Irish Embassy there, identified three major sub-groups: religious migrants (priests, nuns, students at religious institutions); well-established professional migrants working for bodies like the FAO, the Irish Embassy; and the recently arrived who work as language teachers, nannies and bar staff. These recent arrivals in casual work were often looking for travel experience and a job to earn money to move on.

[6] We stress the word "mass" here, for there is a long tradition of smaller-scale high-status and creative Irish emigration stretching back at least to the eighteenth century. See O'Sullivan (1992) for some examples.

[7] For an interesting account of how these contradictions and ambiguities are expressed in the creative literature on Irish migration see Duffy (1995).

Kockel (1993) pays more explicit attention to assimilation processes among young Irish migrants in Germany. In Munich he identified four subgroups: long-established professionals often married to a German or non-Irish partner; acculturating migrants who are steadily assimilating into German society but who are keen to express an Irish cultural identity; an unassimilated "travelling group" made up of a fluid population of people who have chosen to stay in Munich to make money for a while as part of a longer-term project of seeing the world; and an unassimilated temporary population of students in summer jobs.

Lack of assimilation does not always mean a lack of contact with the host population. Often such contacts are most intense in the many Irish pubs and clubs which have sprung up in many European cities (often with self-consciously Irish names such as the "Fiddler's Elbow" and "Druid's Den" in Rome). Such places are perfect locations for the dual mentality of Irish emigrants. They function as refuges for exiles but, at the same time, as places for lively cross-national interchanges.

These studies of the Irish in Paris, Munich and Rome show that the reasons young highly-educated migrants leave Ireland are as likely to be for non-economic than economic reasons. These findings are much like those from the surveys of graduate emigrants discussed earlier in the paper. Whilst there are structural contexts, such as the lack of graduate opportunities in Ireland and the tightness of the Irish labour market, to the outflow of the young and highly educated from Ireland, there are strong personal elements in the decision to emigrate. The individual-level factors involve not only personal contacts overseas but also general attitudes that emigration would be a "good thing" for long-term personal development or merely "fun" and "exciting".[8] Young Irish emigrants come from a country where there is a culture of emigration but what has changed is the nature of this culture: in the past it was a culture of need, but now it is more a culture of choice (MacEinri, 1991).

6. *Summing-up and conclusion*

A succession of key words will be used to summarise our results and connect them to the propositions introduced at the beginning of this paper.

First, young highly-educated Irish migrants are *highly mobile*. Many indicators of hypermobility can be cited. Around 20% of graduates on our main survey has been resident in four or more places in the four of five years since their graduation. About 30% of the respondents changed their place of residence each year, either inside or outside Ireland.

The next two key words to describe the migration patterns of these "new" Irish emigrants are *openness* and *transience*. Many career histories portray a to-and-from pattern between Ireland and the rest of the world. Young highly-

[8] Shuttleworth and Kockel (1990) have termed this free-wheeling approach as "emigration as walkabout".

educated migrants take part in a circulatory movement that illustrates the openness and interconnections of the Irish, British and European labour markets for young educated labour.

Though graduates are relatively *homogenous* in their propensity to emigrate they are rather *concentrated* with respect to destination. London is, by far, the leading location for business graduates while continental Europe is the main destination for language graduates, of whom many are concentrated in major international cities.

Regarding motives for emigration, the key phrase is the *search for experience* – either in a specific career-related sense or more general "life experience" in a broader socio-cultural context. In contrast to the conventional wisdom about high taxation the desire to find challenging work in a demanding environment with career potential stands out as important.

The key word to describe how the labour market for these new educated emigrants functions is *informality*. Less than one in forty emigrations recorded in our main survey was structured by means of the internal labour markets of multinational firms. Informal networks, personal arrangements, and simply "trying their luck" are the major means by which jobs abroad are secured. This informality derives from the long-standing tradition of Irish labour migration in which outflows of the highly educated are embedded.

Regarding assimilation, young highly-educated emigrants seem to *balance* their own Irish identity with a clear progression toward integration which impresses host societies which compare them favourably with other nationalities. Survey data on friendship patterns of the Irish in Paris and Rome confirm widespread contacts with the host population; and this is reinforced by good language skills and knowledge of the local political and social milieux (King and Arbuckle, 1992; MacEinri, 1989). Though these new communities are dynamic, young, highly mobile and rapidly integrated, an important mechanism for their establishment is the social networking which has characterised the Irish at all stages of their migration history.

The evidence from the surveys of graduates and the "new" Irish communities in Europe sheds some light on a complex picture. In terms of the hypotheses presented in the introduction, the findings are ambiguous. Irish graduate emigrants and the new, largely highly-educated communities of continental Europe, look both inward and outward socially and culturally. On the one hand, the new migration takes many traditional forms in its lack of formal structure and its reliance on social and personal networks. On the other, these migrants, as a group, show many of the signs of hypermobility that one would associate with a new post-modern (or post-industrial) era of migration. Likewise, the social behaviour of many members of the new Irish communities in continental Europe is equally ambiguous. The lack of formal structure that was identified as a feature of graduate migration is also one of the central characteristics of these recently-created communities. The emphasis on social and personal networks is one factor that leads to social "closure" and the maintenance of an Irish cultural identity that has not yet been eroded by global cultural values. Yet, paradoxically,

this cultural and social distinction is a feature that shows many signs of being "marketed" in continental Europe and acts as a potential force for assimilation.

From this it may be concluded, firstly, that changes in the social and cultural forms of migration cannot be "read off" from the changed nature (for example educational and occupational composition) of migration flows. Secondly, there are in many important ways, few differences between the "new" Irish emigration and earlier population outflows from Ireland. Changes in the structure of the world economy, and in the cultural and social context for migration, have made some difference to the experiences and behaviour of the recent Irish emigrants but the continuity between more recently-established communities and past waves of emigration (see for example Jackson, 1963) is strong. Socio-cultural distinctiveness remains even amongst recent emigrants within the advanced world who might be assumed to have felt the forces of social homogenisation more powerfully than other types of migrants.

What of the future? In one of his more quotable remarks, MacEinri (1989) writes that "Ireland is turning out a superb human product for others to consume"; recent Irish migrants are amongst the best educated and mobile workers anywhere. Our research throws doubt on programmes to encourage education and training in peripheral regions. The globalisation of national economies and the increased flexibility of capital make any national or regional strategy to create an educated labour force a risky venture (especially given the relationship between education and the propensity to migrate). Even given labour market stability and the matching of supply and demand for educated labour in peripheral areas, it is likely that this type of labour would be footloose, if we generalise from the Irish experience especially if the importance of non-economic factors are considered. Of course, the personal utility of education allows those in receipt of it to move freely thereby reducing unemployment in the periphery. However, even this simple argument has its drawbacks. Given the well-known inequalities in access to higher education, it is probable that such a policy would form a migratory elite at the expense of a larger class which could not obtain education, access to the labour market or, in the last resort, to migration opportunities.

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Les migrations étudiantes des pays du sud de la Méditerranée vers les universités européennes: premiers aperçus

La recherche dont il est question dans ce rapide exposé a pour objet les migrations étudiantes des pays du sud de la Méditerranée vers les universités européennes. C'est une recherche qui est menée dans une perspective comparative et qui implique des chercheurs de trois pays européens parmi ceux qui accueillent de manière significative des étudiants étrangers: l'Italie, l'Allemagne, la France.[1]

Au rang des pays de départ retenus pour la recherche, en raison de l'importance de leurs effectifs d'étudiants expatriés dans les pays du nord concernés, figurent principalement:

– Pour l'Italie: la Grèce, l'Iran, le Maroc
– Pour l'Allemagne: la Turquie, la Grèce, l'Iran
– Pour la France: le Maroc, l'Algérie, la Tunisie

Il n'est pas question dans le cadre de ce bref exposé de détailler tous les attendus théoriques de cette recherche. Nous nous contenterons d'indiquer, que nous avons choisi de privilégier globalement une approche à tonalité anthropologique qui "n'occulte pas mais subsume les aspects sociologiques, économiques, historiques, politiques présents dans ce type de processus migratoire".[2] Une telle approche revient à attribuer à l'objet de notre recherche le caractère de ce que le sociologue français M. Mauss appelait un "fait social total".[3] Ainsi conçue, l'étude d'un pareil phénomène, où il est évident que se trouve inscrite, au-delà de sa signification proprement universitaire, une forme particulière de l'échange entre pays développés et pays moins développés (ou en voie de développement), s'indique d'emblée comme contribution à la réflexion contemporaine sur l'état et l'évolution des relations nord-sud.

[1] Giovanna Campani, Università di Firenze; Czarina Wilpert, Université de Berlin.

[2] V. BORGOGNO, J. STREIFF-FENART, *Recherche comparative sur les migrations étudiantes des pays du sud de la Méditerranée vers les universités européennes*: réponse à l'appel d'offres de recherches "Intelligence de l'Europe Méditerranée: échanges et affrontements". Nice, mai 1992.

[3] M. MAUSS, *Sociologie et anthropologie*. Paris, PUF, 1980 (1ère éd.: 1950) cf. deuxième partie: Essai sur le don (p. 142).

Nous aborderons successivement deux points: le premier concerne les chiffres de la migration étudiante en France, le second consistera dans quelques remarques sur la manière dont cette question est appréhendée dans la "sphère de réflexion étatique" française.

1. *L'historique des flux*

De la rentrée universitaire 1971 à celle de 1991 le nombre d'étudiants étrangers dans les universités françaises passe de 42.030 à 137.278. On constate ainsi qu'en 20 ans le nombre d'étudiants étrangers a été multiplié par 3,3 alors que pour les étudiants français le multiplicateur est de 1,9. Il apparaît ainsi que la France est le premier pays au monde pour l'accueil des étudiants étrangers par rapport à l'ensemble de la population étudiante.

Le nombre des étudiants en provenance du continent africain a été multiplié par sept (13.484 en 1971 et 76.668 en 1991), alors que le nombre d'étudiants des pays du continent européen a quadruplé (7.657 en 1971 et 27.250 en 1991). Au regard de la nationalité ce sont les Algériens (passant de 1.352 étudiants à 16.311, soit 12 fois plus) et les Marocains (passant de 2.471 étudiants à 24.036, soit 10 fois plus) dont le nombre a le plus augmenté durant ces vingt dernières années.

Si l'on procède à un examen plus détaillé de l'évolution des effectifs annuels d'étudiants étrangers, en conservant la distinction entre d'une part les étudiants en provenance de pays européens et d'autre part d'Afrique en général et plus particulièrement des trois pays du Maghreb (l'Algérie, le Maroc et la Tunisie), on constate des variations qui permettent d'identifier trois périodes: 1968-84, 1985-87 et 1988-91. Ces trois périodes se distinguent par des courants migratoires étudiants différents:

1.1 *1968-84: l'arrivée massive des étudiants en provenance des anciennes colonies françaises*

La première période s'étend de 1968 à 84. En France comme dans tous les pays développés cette période est caractérisée par une croissance forte et continue du nombre des universités et de la population étudiante globale. Le nombre d'étudiants étrangers croît également considérablement, et la croissance de leurs effectifs est proportionnellement encore plus forte que celle des étudiants nationaux (+ 218% contre + 58%). L'augmentation massive du nombre des étudiants étrangers sur cette période est principalement dû à des courants migratoires provenant des anciennes colonies de la France sur le continent africain: + 473% contre "seulement" + 198% pour les ressortissants des pays du continent européen. Cette progression des étudiants originaires d'Afrique traduit sans doute la difficulté des pays concernés à répondre au développement massif de la "demande en enseignement supérieur", consécutif au progrès qu'ils ont accompli dans le domaine de l'éducation, alors que les équipements universitaires légués par l'ancien colonisateur sont pratiquement inexistants.

Les contingents les plus importants sont ceux des étudiants originaires du Maroc (+ 943%) et de l'Algérie (+ 711%). Par contre on constate que les étudiants tunisiens qui constituent le groupe le plus important parmi les étudiants étrangers en 1971 (2929), connaissent une évolution bien moins importante (+ 174) que ceux des pays précités et cela particulièrement à partir de la rentrée universitaire de 1978 où leurs taux de croissance annuelle décline de façon continue jusqu'à ce jour.

1.2 *1985-87: des années de régression relative*

A partir de la rentrée universitaire 1985 et pendant trois années consécutives on constate une régression de l'effectif des étudiants étrangers (– 7%) alors que celui des français continue de progresser (+ 6%). Cette régression des étudiants étrangers frappe bien d'avantage les ressortissants des pays du continent africain: – 8% que ceux des pays Européens (– 4%) La diminution du nombre d'étudiants est surtout remarquable chez les marocains: – 11%, chez les tunisiens (dont la diminution avait déjà largement commencée, comme déjà mentionné, en 1978-79): – 13%. Tandis que la diminution des effectifs algériens correspond à la moyenne.

Tableau 1 – *Taux de croissance par périodes des étudiants selon leur origine géographique*

Etudiants	1971-84	1985-87	1988-92
Europe	+ 198	– 4	+ 34
Afrique	+ 473	– 9	+ 5
Maroc	+ 943	– 11	0
Tunisie	+ 174	– 13	– 4
Algérie	+ 711	– 8	+ 49
Ensemble étrangers	+ 218	– 7	+ 10
Français	+ 52	+ 6	+ 21

Comment expliquer cette régression? Elle répond très certainement d'abord à des facteurs propres aux pays de départ, parmi lesquels les facteurs économiques tiennent une grande place (cf. par exemple au Maroc les restrictions à l'octroi des bourses). Des facteurs politiques apparus au cours de la même période dans le pays d'accueil peuvent également contribuer à expliquer cette régression.

Une inflexion s'est en effet produite au cours de l'année 1982, dans la politique d'accueil des universités françaises à l'égard des étudiants étrangers, et plus largement dans la politique de coopération universitaire à l'égard des pays du sud.

Cette inflexion est notamment traduite par une circulaire ministérielle précise que dans le cadre de l'autonomie que leur octroie la loi du 31 décembre 1981, les universités doivent s'efforcer désormais de se donner une politique d'accueil étroitement ajustée à leurs capacités.

La même circulaire souligne la nécessite d'une "cohérence entre la formation des étudiants étrangers en France et le développement des centres universitaires dans les pays en voie de développement". Ceci signifie qu'en pratique il va être beaucoup plus difficile à un étudiant étranger de s'inscrire dans une université française, si la filière souhaitée existe dans son pays. Cette disposition vise particulièrement le premier cycle très "engorgé".

1.3 *De 1988-92: une période caractérisée par l'émergence d'un "marché universitaire européen" et aussi par un brusque accroissement de la migration étudiante algérienne*

De 1988 à nos jours, les tendances qui avaient caractérisé jusqu'ici les flux d'étudiants étrangers, au regard notamment de leur répartition par origine nationale, se trouvent notablement infléchies. Globalement les étrangers enregistrent à nouveau une progression globale de leurs effectifs (+ 10%), mais celle-ci est bien moindre que celle des étudiants français (+ 21%), et elle concerne surtout, contrairement aux périodes précédentes, principalement des étudiants en provenance de pays européens: + 34% (contre + 5% pour les étudiants provenant des pays africains). Ce phénomène nouveau s'explique par la mise en place dans le cadre de la construction européenne d'une politique de coopération interuniversitaire spécifique visant à multiplier les échanges d'étudiants et d'enseignants entre les universités des pays membres. Le programme ERASMUS constitue l'illustration la plus connue de ces nouvelles formes de coopération.

Ce fort taux de croissance du contingent européen au sein des étudiants étrangers accueillis par nos universités, témoigne, de toute évidence, de ce qu'on pourrait appeler un recentrage européen de la politique française de coopération internationale en matière d'enseignement supérieur.

Il existe cependant un groupe d'étudiants en provenance du continent africain qui, contrairement à la tendance ci-dessus, voit ses effectifs s'accroître spectaculairement au cours de cette période. C'est celui des étudiants algériens. Leur effectif en effet croît de + 49% alors que celui des Marocains reste stable, que celui des Tunisiens continue de baisser (– 4%) et enfin que celui des étudiants originaires des pays de l'Afrique Noire diminue de 4%. Il est difficile de ne pas relever que cette augmentation coincide avec l'aggravation de la crise politico-économique qui frappe léur pays (cf. les émeutes de 1988). Se trouve ici soulignée une des dimensions indissociables des migrations étudiantes en provenance des pays en voie de développement: le fait qu'elles sont susceptibles de revetir un sens qui les éloignent quelque peu de la pure "motivation universitaire" et les rapprochent de la figure de la migration classique (que celle-ci obéisse à des raisons économiques ou politiques...).

1.4 *La situation actuelle*

Ce sont aujourd'hui 137 278 étudiants étrangers qui fréquentent les universités françaises; ils représentent 11,1% du public étudiant en général et viennent majoritairement du continent africain (54,7%) alors que seulement 22% sont originaires de pays européens.

Les nationalités les plus représentées parmi les étudiants étrangers depuis 1976 sont ceux du Maghreb. Aujourd'hui les Marocains constituent le groupe national le plus important des étudiants étrangers (17,5%), suivi par les Algériens (11,9%). Les Tunisiens, moins nombreux, constituent 4,9% des étudiants étrangers.

Dans le groupe d'ensemble des étudiants étrangers, le groupe des étudiants en provenance des pays africains présente deux caractéristiques remarquables qui les différencie à la fois des étudiants français, et du sousgroupe des étudiants en provenance de pays européens. L'une a trait à leur répartition dans les cycles d'enseignement, l'autre au "sex-ratio" du groupe.

1.5 *Répartition par cycle: une surreprésentation des étudiants africains dans le troisième cycle*

Tableau 2 – *Répartition des étudiants par origine géographique selon le cycle d'étude fréquenté*

Cycle	1er	2ème	3ème	Total
Europe	40,5	36,2	23,3	100,0
Afrique	30,9	28,8	40,3	100,0
Maroc	30,9	27,0	42,1	100,0
Tunisie	29,8	32,2	38,0	100,0
Algerie	23,7	24,0	52,3	100,0
Etrangers	33,3	29,8	36,9	100,0
France	55,9	32,2	11,9	100,0
Ensemble	53,3	32,0	14,7	100,0

Le tableaux montre que les étudiants français sont pour plus de moitié d'entre eux (55,8%) inscrits en 1er cycle alors qu'ils sont très peu nombreux dans le 3ème cycle (11,9%).

On constate de même que les étudiants en provenance de pays européens sont eux-aussi majoritairement inscrits en 1er cycle (40,5%) où bien souvent ils viennent suivre pour un an des études de langue et de civilisation française. Le 2ème cycle, qui est fréquenté par 36,2% d'entre eux, étant, lui, le cycle d'accueil des programmes ERASMUS. (Quant aux 23,3% des étudiants européens inscrits en 3ème cycle, on notera qu'il s'agit pour 39% d'étudiants originaires de l'Europe du Sud: l'Espagne, l'Italie et la Grèce).

A l'opposé, on le voit, les étudiants en provenance du continent africain sont proportionnellement bien plus nombreux à effectuer des études dans le cadre du 3ème cycle (40,3%), où ils viennent plus particulièrement se spécialiser dans les disciplines médicales (Médecine, Pharmacie et Dentaire): 35,5%, et les disciplines scientifiques: 29,7%.

Le profil type de l'étudiant africain est donc celui de l'étudiant de 3ème cycle venu se spécialiser en France.

Les tendances que nous avons relevés dans la répartition par cycle des étudiants africains (prépondérance pour le 3ème cycle) se vérifient évidemment pour les étudiants en provenance des pays du Maghreb qui constituent la majorité de ce groupe d'étudiants. Il est bon cependant de souligner la situation tout à fait spécifique des étudiants algériens. La proportion de ces étudiants à être inscrits en 3ème cycle est la plus élevée de celles que l'on observe dans ce groupe, soit 52,4%. A noter que 80% de ces étudiants de 3ème cycle sont inscrits dans les disciplines Médicales (50%) et Scientifiques (31%), alors que 12% seulement le sont dans les disciplines de Lettres et Sciences Humaines.

Du point de vue des disciplines choisies par l'ensemble des différents étudiants des continents européen et africain on note:

a) que les étudiants européens effectuent massivement des études de Lettres (54%),

b) que les étudiants africains sont quant à eux sur-représentés dans les disciplines de Médecine, Pharmacie ou Dentaire (20%), des Sciences (27%) et des Sciences Économiques (13%) par rapport à l'ensemble des étudiants. La surreprésentation en Sciences Économiques est principalement le fait des étudiants des pays d'Afrique Noire, puisque 20% d'entre eux sont inscrits dans cette filière.

Tableau 3 – *Répartition des étudiants par origine géographique selon les disciplines d'étude*

	Droit	Sc. Eco	Lettres	Sciences	Sante (1)	Iut	Staps	Total
Europe	12,2	8,8	54,2	13,3	8,7	2,4	0,3	100,0
Afrique	11,6	13,4	25,4	26,8	20,3	2,1	0,3	100,0
Maroc	5,6	10,0	25,7	34,0	21,1	3,3	0,2	100,0
Tunisie	10,9	13,3	28,2	29,8	16,2	1,3	0,3	100,0
Algérie	8,9	8,1	21,9	28,3	30,9	1,4	0,5	100,0
Etrangers	10,7	10,8	36,1	22,2	17,8	2,1	0,2	100,0
Français	14,0	11,1	34,1	21,6	11,3	6,9	1,0	100,0
Ensemble Etudiants	13,7	11,0	34,3	21,7	12,1	6,4	0,9	100,0

(1) = Médecine, Pharmacie, Dentaire

Pour ce qui est des orientations disciplinaires des étudiants originaires des trois pays du Maghreb, on remarque à nouveau la position spécifique des étudiants Algériens. Alors que les Marocains et les Tunisiens poursuivent principalement des études de Sciences (34% et 30%), les Algériens sont quant à eux massivement inscrits en Médecine, Pharmacie ou Dentaire (31%).

1.6 *Sex ratio: la sous représentation des femmes chez les étudiants africains*

Alors que parmi les étudiants français les hommes sont moins nombreux que les femmes (44% contre 56%).

Alors que dans le groupe des étudiants étrangers originaires des pays d'Europe les hommes sont encore moins nombreux que chez les étudiants français (39% contre 61% de femmes), le groupe des étudiants africains est caractérisé, lui, à l'inverse par une importante "surmasculinité" (70% d'hommes pour 30% de femmes).

Si l'on examine plus particulièrement le cas des étudiants en provenance du Maghreb, on constate que le pourcentage d'hommes chez les Marocains et les Tunisiens se situe au dessus de la moyenne des étudiants africains pris dans leur ensemble. Par contre le taux de masculinité du groupe des étudiants algériens (68%), tout en restant élevé, se situe au dessous de cette moyenne.

Il est difficile évidement de ne pas établir une relation entre ce nombre relativement plus élevé d'étudiantes algériennes, et l'aggravation de la situation des femmes dans ce pays due a la montée de l'extrémisme religieux (une aggravation qui n'épargne pas les campus).[4] Dans cette hypothèse, on serait fondé à parler d'une sorte d'exode culturel se superposant à la migration étudiante.

Tableau 4 – *Répartition des étudiants per origine géographique selon le sex*

Origine géographique	Hommes	Femmes	Ensemble
Europe	38,1	61,9	100,0
Afrique	70,7	29,3	100,0
Maroc	71,7	28,3	100,0
Tunisie	73,2	26,8	100,0
Algérie	68,2	31,8	100,0
Etrangers	59,6	40,4	100,0
Français	43,9	56,1	100,0
Ensemble Etudiants	45,6	54,4	100,0

[4] Ainsi que le note par exemple R. Leveau qui parle à ce sujet des femmes "en proie aux vexations de la rue et des campus", dans R. LEVEAU, *Des nouvelles formes d'exode politique?*, in C. LACOSTE (sous dir.), *L'Etat du Maghreb*. La Découverte, 1991.

2. *La représentation actuelle de la question des étudiants étrangers chez les experts gouvernementaux*

Les quelques remarques qui vont suivre traitent de ce que nous avons pu observer, concernant la manière dont cette question des étudiants étrangers – et au sein de ce groupe les étudiants en provenance du Maghreb – est appréhendée par disons, pour faire court, les gens qui au sein de la sphère étatique sont chargés de la réflexion sur les problèmes de l'enseignement supérieur et de l'université[5] (et sur l'orientation qu'il convient de donner à un développement quantitatif qui ne paraît pas devoir s'interrompre de sitôt)

Il est bon de souligner en commencant ce qui nous paraît être une des caractéristiques les plus marquantes des conceptions qui semblent prévaloir actuellement à propos du role devolu aux universités. Nous voulons parler de la tendance de plus en plus affirmée à attendre de ces dernières qu'elles remplissent des fonctions les associant aux nécessités du développement économique, et qu'elles se comportent en partenaire actifs des Etats dans la compétition économique internationale (ou des Régions pour ce qui est de la compétition économique intra-nationale) notamment dans le cadre de la construction européenne. Cette tendance à ce qu'on pourrait appeler l'instrumentalisation économico politique des universités se voit renforcée, par la nécessité où se trouvent désormais les Etats de recourir à de nouveaux partenaires publics ou privés (collectivités territoriales, entreprises) pour financer un fonctionnement dont le cout s'alourdit sans cesse. Ce concours n'est acquis qu'au prix de contreparties qui prend nécessairement la forme d'une prise en charge encore accrue par les universités (au travers notamment de l'instauration de filières d'enseignement et de recherche spécifiques) d'intérets sectoriels ou/et locaux qui les ancre davantage encore dans le jeu et la symbolique de l'économie.

Une telle tendance est de nature à favoriser – en même temps qu'elle en révèle l'existence – l'instauration d'un contexte caractérisé, au niveau de la symbolique globale, par le fait que l'espace des relations intra et internationales entre universités ou systèmes universitaires, (et notamment les relations qu'elles nouent au travers de leur rapport au "public" global des étudiants, et à la demande de formation qui en émane) se voit de plus en plus réinterprété sous la figure du marché et structuré selon une logique concurrentielle.

Dans un tel contexte l'accueil d'étudiants étrangers (à la région, ou à la nation si l'on se place au niveau du système universitaire national) est un phénomène que les universités, ou les systèmes universitaires, sont désormais portés à célébrer et à encourager. La présence d'étudiants étrangers mesure en effet *l'attractivité* d'une université, ou d'un système universitaire donné, et se trouve

[5] Nous nous referons notamment ici aux deux documents suivants: a) F. MASSIT-FOLLEA, F. ESPINETTE, *L'Europe des Universités, l'enseignement supérieur en situation*. Paris, La Documentation Française, 1992; b) Comité d'évaluation des établissements publics à caractère scientifique, culturel et professionnel, *Universités: les chances de l'ouverture*, Rapport au président de la République. Paris, La Documentation Française, 1991.

converti en indice de la plus ou moins bonne position de ce dernier sur les différents "marchés universitaires" (intra-national, intra-européen, international...).

On pourrait s'attendre, dès lors, à ce que le nombre exceptionnel d'étudiants étrangers dans les universités de notre pays soit célébré comme il convient dans les documents officiels que nous avons compulsés. C'est-à-dire comme l'indice du rayonnement exceptionnel du système universitaire français. Or il n'en est rien, les dits documents portent en effet sur cet afflux une appréciation dont le moins qu'on puisse dire est qu'elle est mitigée. La France – en l'occurrence les experts chargés du problème – est loin de se vanter du nombre exceptionnellement élevé d'étudiants étrangers qu'elle accueille. Le caractère restrictif de cette appréciation (ou si l'on préfère le "profil bas" adopté dans l'interprétation de ce chiffre comme "indice d'attractivité") met explicitement en cause, deux aspects jugés négatifs du phénomène.

1) On déplore la place trop importante occupée par les disciplines littéraires (au sens large) dans les choix en matière de filière de formation de ces étudiants étrangers au détriment des matières scientifiques, les seules apparemment prises en compte au regard de l'excellence universitaire. D'autant plus que ce déséquilibre, loin de se corriger avec le temps tend au contraire à s'accroître.

2) On déplore la place jugée excessive qu'occupent dans ces effectifs les étudiants en provenance de pays en voie de développement (en l'occurence pays d'Afrique et particulièrement pays du Maghreb) par comparaison avec le nombre jugé trop faible d'étudiants en provenance des pays développés. Ce déséquilibre se trouvant particulièrement souligné à propos des étudiants étrangers inscrits en "3e cycle" (soit le niveau d'enseignement qui participe de ou communique avec la sphère de la recherche).

Quelles sont les raisons pouvant expliquer que la présence d'un fort contingent d'étudiants en provenance d'Afrique – et surtout du Maghreb – soit plutôt inscrite à la colonne "passif" qu'à la colonne "actif", de l'appréciation portée par les experts sur la position de la France dans ce domaine?

– La première touche à une des dimensions fondamentales de la signification attribuée à ces migrations étudiantes. Nous voulons parler de leur inscription dans le concept de coopération post coloniale. Il est évident que l'accueil d'étudiants africains dans les universités françaises a été et continue à être regardée comme relevant de cette forme d'aide au développement auquel renvoie le terme de "coopération" quand il est employé à propos des pays en voie de développement.

Dans cette perspective la nouvelle appréciation portée sur l'accueil de ces étudiants africains, traduirait la remise en cause, ou une accentuation de la remise en cause de cette forme de "coopération". Mais quel sens donner à cette remise en cause?

On a depuis longtemps remarqué que la notion de coopération était terriblement ambiguë. A la prendre au pied de la lettre le terme renvoie à un processus obéissant à une logique de réciprocité de l'échange. Il est évident que la coopération telle qu'elle s'est concrètement réalisée dans le sillage de la décolonisation, s'est exposée, dès l'instant où elle s'est instaurée, à une critique

mettant en cause son caractère... faussement coopératif, c'est-à-dire l'absence de véritable contrepartie du coté des pays concernés. Cette critique a longtemps pu être repoussée dans la mesure où on pouvait lui opposer soit que ces formes d'aides avaient le sens de "réparation" (prenant leur origine dans une sorte de culpabilité post-coloniale) soit qu'elles avaient tout de même une contrepartie sous la forme de notions comme celles de rayonnement culturel (dont une des expressions concrètes était l'idée de francophonie), soit tout de même, sous l'aspect de retombées économiques, fussent-elles minimes.

Le tournant que l'on discerne actuellement dans la politique à l'égard des étudiants africains prendrait le sens d'une disqualification définitive de ce type d'arguments. Il vaudrait plaidoyer pour une évaluation plus réaliste des termes réels de cet "échange". On a finalement affaire ici, à une projection dans le champ universitaire de la crise qui semble aujourd'hui généralement frapper la notion de coopération avec le Tiers-Monde. Dans cette logique la position – réelle et représentée – des étudiants africains dans l'université française tendrait à faire écho à cette crise sous la forme d'un rappel toujours pendant de leur appartenance à une partie du monde jugé irremédiablement en quête d'assistance.

Notons que ce type de remise en cause peut être paradoxalement partagé par les partisans (appartenant eux au camp "tiers-mondistes"..) de cette coopération, dans la mesure où cette migration étudiante, dont ils peuvent craindre qu'elle ne s'inscrive en fait dans une logique de "brain-drain", ne leur parait pas de nature à servir réellement les intérets des pays de départ.

Il faut remarquer aussi que la tendance à ce que nous avons appelé l'instrumentalisation économique des universités, et la tentative de les recomposer idéologiquement autour du modèle du marché constituent des facteurs qui vont tout à fait dans le sens, eux aussi, d'une remise en cause des "fictions coopératives". Mais alors pourquoi deux poids deux mesures? pourquoi les étudiants américains et européens sont-ils considérés comme un apport positif? pourquoi leur afflux est-il recherché? Mais parce que c'est un type de migration tout à fait en accord lui avec cette économicisation de l'université. Elle ouvre à de "véritables" coopérations, c'est-à-dire à des coopérations à véritable réciprocité. En effet, l'accueil d'étudiant du "premier monde" répond tout à fait à cette exigence de symétrie et cela parce qu'il fonde un droit à contrepartie, il gage des droits futurs à des flux allant dans l' "autre sens", c'est-à-dire à l'envoi – présumé profitable – d'étudiants français dans les pays d'origine de ces migrants-là.[6] En d'autres termes on en vient à une conception plus réaliste de la coopération, dont il est désormais reconnu que pour avoir son plein sens elle ne peut impliquer que des gens du "même monde".

[6] "L'accueil d'un plus grand nombre d'étudiants étrangers provenant de l'Europe et de l'Amérique ne manquerait pas d'entrainer un accroissement corrélatif des flux d'étudiants francais allant étudier dans les universités de ces pays. Plus généralement un accroissement des échanges universitaires de toute nature des universités francaises avec leurs meilleurs homologues étrangers devrait automatiquement découler, à un terme plus ou moins rapide de l'augmentation du nombre des étudiants étrangers en France venant de l'Europe et de l'Amérique" (rapport cité: Universités: les chances de l'ouverture).

Ce qui précède permet d'expliquer pourquoi le discours prônant un développement actif de la coopération interuniversitaire avec les pays de la communauté européenne (et plus largement les pays développés) s'accompagne le plus souvent d'un discours remettant en cause et invitant à mieux "controler" l'accueil des étudiants en provenance des PVD. En fonction de ce que nous avons dit plus haut, il ne faut évidemment pas voir dans cette concurrence l'effet d'une simple coincidence mais celui d'une articulation logique. Poussée jusqu'à ses ultimes conséquences notre interprétation conduit à voir dans cette articulation l'effet d'une réorientation d'ensemble, qui fait sens comme invitation à transférer une partie des "ressources" disponibles en matière de coopération interuniversitaire, d'un secteur coopératif jugé peu "rémunérateur" – aussi bien matériellement que symboliquement – à un secteur postulé, au moins à terme, comme plus "rentable".

– Le seconde type de remise en cause sort du cadre proprement universitaire, et s'inscrit dans une problématique politique ou d'ordre public.

Il s'agit de la tendance de plus en plus affirmée à ne plus traiter cette migration comme un cas particulier sans rapport avec les autres formes de migration (et notamment l'immigration de travail), et qui par là relèverait d'une appréhension et d'un traitement spécifique. Les dispositions juridiques, renforçant les contrôles et multipliant les restrictions à l'égard de cette immigration (et de ce type de migrant) qui s'inscrivent dans la politique d'immigration mise en place par le gouvernement actuel sont parfaitement illustratifs de cette tendance. Ce nouveau climat politique conduit à – en même temps qu'elle traduit – ce qu'on pourrait appeler une véritable réinterprétation du sens de la présence de ces "étudiants du tiers-monde" dans notre société, qui affecte très certainement, et de manière concrète, leur position dans notre espace public.

Avec ce changement de perception, cette présence est vécue comme participant pleinement désormais de ce qu'il est convenu d'appeler le problème de l'immigration, et cette migration étudiante, comme une manière de contourner les obstacles juridiques élevés contre l'immigration ordinaire.

Deux cas de figure hantent, à ce point de vue, l'imaginaire administratif et politique. Premier cas: le projet d'immigrer est présent dès le départ sous la finalité apparemment universitaire de la décision. La migration répond ici à la figure de la *ruse*. La prétendue visée de formation est le "cheval de Troie" dont se sert le "soi-disant" étudiant pour penétrer en France (ou/et en Europe).

Second cas de figure: à l'issue du cursus universitaire et quelle qu'ait été la sincerité de son désir initial de retourner dans son pays, l'étudiant étranger (celui qui est originaire d'Afrique...), devant la difficulté entrevue de s'insérer professionnellement dans son pays, ou pour toute autre raison, décide de demeurer dans le pays où il a fait ses études.

On peut dire aussi que de ce point de vue, la mise en cause du poids jugé excessif des étudiants maghrébins (ou en provenance des pays d'Afrique) constitue la projection dans le champ universitaire du problème politique de l'immigration. Pour dire les choses autrement, dans cette perspective le contenu proprement universitaire de l'appréciation du problème est dominé par la problématique de l'immigration, comme problématique socio-politique. Cette

perspective conduit à accorder une grande attention aux réifications ethniques, pour ne pas dire raciales, qui marquent l'appréhension sociale de ce type de problème. Il importe peu ici pour notre propos que les acteurs impliqués dans ce problème soit partie prenante, au premier degré de cette réinterprétation "immigratoire" et ethnique de la migration étudiante, ou qu'ils estiment avoir le devoir de gérer les risques sociaux liés à la prégnance de plus en plus grande de cette réinterprétation. Dans les deux cas le résultat pratique est le même.

A propos de cette façon d'appréhender la question des étudiants étrangers il nous semble qu'il y a deux erreurs à ne pas commettre. La première consiste à estimer que les orientations gestionnaires qu'elles sont susceptibles de déterminer vont désormais structurer de manière dominante et impérative tous les niveaux de la prise en charge de ces étudiants. Il n'en est heureusement rien. D'abord parce qu'elles sont susceptibles d'être mises en cause dans des débats publics. En second lieu parce que de telles orientations sont à l'opposé des valeurs et du message universaliste qui sont historiquement – et pour ainsi dire constitutivement – attachés à l'idée d'université. De ce point de vue, c'est toute l'identité universitaire européenne qui se trouve mise en jeu dans cette question des étudiants étrangers.

La seconde erreur serait à l'inverse de minimiser les effets et la portée de ces orientations. Quelles que soient les résistances qu'elles peuvent rencontrer, elles ne seront certainement pas sans effet,[7] et notamment, hélas, parce qu'elles sont profondément dans l' "esprit du temps".

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[7] A l'appui de cette affirmation on pourra citer les restrictions nouvelles apportées à l'accueil en France et à l'inscription des ces étudiants dans les universités, qui rapprochent leur position de celle des "migrants ordinaires".

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Attitude to emigration among university students in the former USSR

1. *The relevance of the issue*

Young people, students in particular, are potentially the most mobile stratum of the population. They are very dynamic and use new opportunities immediately. These are some of the reasons why the brain drain process may very well spark off among students.

The recent liberalization that has taken place in the former USSR has sharply increased the potential possibilities of students' going abroad: to study, to work while on probation, as tourists or on a visit to friends or relatives. The conditions of exit have changed. Now much depends on the efforts of a student himself, whereas earlier on a Soviet student, in order to go abroad, had to obtain an endorsement approved by a Komsomol, Trade Union and Communist party organizations of a higher educational establishment. A permission to go to study and work on probation abroad had to be approved also by the Ministry of Higher Education.

Emigration moods have spread widely among students. No wonder. The economic crisis compels students to look elsewhere. But there is more to it than that. The majority of students of the former USSR were deprived of any possibility to visit any foreign country and to live there, and their desire to do it now is natural.

Up to the nineties, apparently no specific survey of students' emigration intentions have been conducted, but the problem had already surfaced by means of anonymous replies of respondents in other surveys.

In 1990, 834 students from 36 higher educational establishments were surveyed in the framework of a Public Opinion Program, with the aim of studying professional training of future specialists. The survey, whose objective was far from the problem of migration, showed that some students' commentaries on their professional plans contained declarations of their wish to go abroad "where work is valued" (Stolyarova, 1992).

In the same year, the sociological department of Moscow University studied the public opinion of various youth groups in Moscow (800 persons), with the aim of delving into the prevalent socio-political orientations among them (Viktorov, 1992).

The most substantial group turned out as belonging of those who were against the communist system. Of interest to us is that the analysis show that 30% of these young people are oriented on Western social values: "their strivings are associated with a wish to go to the West".

In 1991, the Population Center of the economic department of Moscow University conducted a survey on University students (186 persons). The survey did not include a direct question about students' emigration plans. The students rather acted as experts and expressed their attitude in relation to various aspects of emigration. Answering the question, "How do you feel about people who leave the country?", every fifth respondent replied that they acted correctly, 45% thought it was a way of resolving one own's personal problems. Every fourth respondent felt indifferent about it, and only 10% harbored feelings of disrespect towards other emigrating citizens. Thus, on the whole, a positive attitude to emigration prevailed among students.

According to the data obtained in that survey, the percentage of young people wishing to emigrate, i.e., to go abroad for permanent residence was assessed as being in the vicinity of 4-5%.

2. *Determination of the research subject*

To gain a deeper insight on students' emigration intentions, in 1992, a sociological survey in several leading universities of the former USSR was conducted: Moscow University, Moscow State Technical University, St. Petersburg State Technical University, Kiev University and Kazan University. A questionnaire "Students' Emigration Intentions" was devised and it included 59 questions.

Senior university students were chosen, on their way to complete their education (the majority of higher educational establishments have 5 year long courses, with some technical colleges reaching 5.5 years). The population sample was made up of nearly fully educated specialists, already holding, in accordance with their future professions, the greater bulk of fundamental and diagnostic knowledge.

Departments of related specialization were selected: mechanical and mathematical, computing mathematics and cybernetics, physical, rocket and aerospace technology. In our opinion, it is easier for these professionals to entertain the intention to study or work abroad because of the universality of the science language. To establish a possible comparison, linguists, historians and law students were also surveyed. 1591 questionnaires were returned, representing about 35% to 40% of the total sample.

3. *General characteristics*

Students' intentions to leave the country were mostly appraised by means of their reply to the question: "Have you ever thougth about the possibility of 'trying your luck' abroad?" Our investigation showed that the orientation to go abroad

is a very widely held feeling among students. The greater part of them (about 70%) confessed that they thought of going abroad, and 16.5% quite seriously so; 52.4 stated that they entertained this idea from time to time. About 30% of the students gave a categorical "no".

Thus the number of "categorical no" students is twice less than the number of those who have indicated their intentions to go abroad. This testifies to a high degree of mobility among students, it shows that going abroad, as one of the means of achieving essential aims in life, has been rooted firmly in their consciousness, and that they are prepared to use any opportunity to realize it.

It would be exaggerated to evaluate the emigration potential only on the basis of the respondents' personal opinions. Moreover, the moods of those who have clearly stated their intentions may, in the course of time, change.

To assess the degree of seriousness of students' intentions, we asked whether those who wish to leave the country have undertaken any concrete step to fulfill their intentions. By this, it is meant, for example, contacting foreign universities and/or firms, taking exams, passing tests, corresponding with relatives and friends abroad, etc.. 50% of the students of the first group answered the question in the affirmative confirming the seriousness of their intentions. 13.5% of the students who had pondered over the possibility of going abroad from time to time have undertaken some action in this direction, too.

It is this group that, potentially, represents the likely applicants to cross the border in the near future. Viceversa, students who only sometimes think about going abroad do not undertake any steps to realize their wish; they are more inert; their behavior will probably depend on the moods of other students or on how easy it will be to migrate.

4. *Demographic and ethnic factors leading to positive or negative attitudes towards emigration*

Men (19%) are more resolute on going abroad than women (12%). The percentage of those who are actively searching for concrete possibilities to travel abroad is also different: 19% among men and 13% among women.

Age has a very limited impact indeed on their orientations, since almost all of them are nearly of the same age. About 78% of students entered a higher educational establishment right after finishing secondary schools. Only 21% had had a previous work or army experience. Correspondingly, we distinguished two age groups: 22 years and under, 23 years and older. In both groups, emigration orientations turned out to be almost the same.

Of great significance is the ethnic factor. Among the surveyed student population, Russians, Ukrainians, Tatars and Jews were the main groups: 92% of the whole sample. The other 8% pick up 24 different nationalities which are not considered because of their small number.

Emigration moods are expressed most remarkably among Jews. Almost half of them think seriously about going abroad. Only 16% do not ponder over that

7. Qualification and level of training

Emigration intentions differ appreciably depending on the type of qualification. A watershed runs between humanist professions (historians, lawyers, philologists) and scientific endeavours (mathematicians, physicists and engineers).

If engaged in the field of humanities, there is an orientation toward an overseas destination to a much lower degree than for physicists and mathematicians. The difference is especially clear when compared with the group of people who do not think about departure: with the humanities it is considerably higher: 50% among girls and 38% among youths. Students in humanities seem to grasp quite clearly that the knowledge and training received in a Soviet higher educational establishment is oriented to internal consumption. In the West, their knowledge would not be considered that much and there would be little chance of finding a job abroad in their field of competence.

There is an increase in the share of mathematicians who think seriously about departing (both among young men and girls), evidently thanks to the confidence and hope that their knowledge and competence would be sufficiently competitive on the world labour market.

It should not be forgotten that emigration flows may be provoked not only by the possibility of finding a job on foreign shores, but also by the difficulty of finding a job on the home turf. The instability of the socio-economic situation in the country and particularly the threat of unemployment gives rise to uncertainty. Students realize this fully and our attention is drawn to the obvious pessimistic moods of qualifications not associated with humanities. Problems of unemployment are, with various degrees of confidence, foreseen by 55.4% of future mathematicians, physicists and engineers and only by 41.4% of future historians, lawyers and philologists.

Traditionally, the mathematics and physics faculties of the universities and of the best higher technical establishments provided highly skilled personnel to the military and industrial complex. Earlier on, especially young male graduates, did not experience any problem in finding a job. Nowadays, however, following the conversion of the defense-oriented sectors and the sharp reduction in number of trained and adequately salaried personnel, in connection with the repeal of the system of state placement of university and institute graduates, there are no longer guarantees for the future provision of employment.

The level of acquired knowledge in the respective field of competence is also an important element in the formation of students' emigration intentions.

Traditionally, the examination mark is the criterion used to establish the level of knowledge in our country under the five-mark grading system. In this case, this grading represents the average resulting from all the last exams. Students who think in earnest about departure abroad are more committed to studying than others. The difference with those who think sometimes about departure is not so great, but those who are not going to leave the country in general show a markedly lower performance in their studies.

There is a more noticeable difference between students, active or passive with regard to migration, in terms of computer skills. It has been calculated that 36% of active students and 19% of passive students work well with a computer. The correspective figure for the active students who cannot work with a computer is 12% and that for passive students is 23.5%.

Still more revealing is the knowledge of a foreign language. Without a good command of English, and on much more rare occasions of French and of German, sometimes of Spanish, and very limitedly of other languages, there is no sense in going abroad.

The share of students knowing each of the listed languages is, to some extent, higher among those who think about migrating than among those who do not. The difference is especially noticeable for the English speaking people.

The number of foreign languages known and/or spoken seems to go hand in hand with their willingness to go abroad.

8. *Conceptions about life abroad*

It is clear that the more contacts students have with people living abroad or the more they have visited foreign countries, the more their conceptions about life abroad are realistic. Moreover, such contacts between relatives, friends or professionals substantially make departure somewhat easier, since they enable students to get reliable information about life abroad and receive some help.

About 11% of Russian students, 13% of Ukrainian students, 9% of Tatar students and 84% of Jewish students have relatives abroad. The students polled have twice as many friends and acquaintances (26% of Russians, 26% of Ukrainians, 17% of Tatars, and 81% of Jews). It is worthy of note that relatives and friends strongly support, in an equal measure, departure for overseas. Those students who have such relationships express their intentions with regard to going abroad twice more often and accordingly are less inclined to stay at home, as compared with those who have no such relationships.

Another source of knowledge about life abroad is one's own or parents' past experience abroad. Some 26% of students had sojourned in countries of the former socialist camp and 44% of them have both or one of their parents staying in these countries. Capitalist countries were visited by 8% of students and by 19% of their parents.

Any familiarization with other countries – either direct or through parents – doubles departure sentiments. Visits to capitalist countries exert greater influence on students, especially if they themselves stayed in these countries with the result that 38% of them think seriously about their departure for abroad and 32% do the same if their parents visited capitalist countries. This is a very high level of interest.

So far, very few students have visited capitalist countries, but the opportunity for doing so is rapidly expanding. Due to the explosive impact of such visits, already 44% of students who stayed in capitalist countries without parents think seriously about returning there. This means that we may expect, in the near

future, a rapid growth in the number of applicants, from within the students' body, for overseas' destinations.

How do students rate their level of knowledge on overseas realities? Almost one-third of those who nurture a very concrete desire to leave for abroad believe that they are sufficinelty aware of what to expect. Since those who are oriented to go abroad include the more developed and better prepared students, it is clear that behind this difference lies more or less a good degree of realistic knowledge, and not a bravado posturing typical of young people.

9. *Pull factors*

All respondents are attracted by better living and working conditions abroad: 32% of them pointed out this factor and 12.7% the possibility of better earning opportunities. Leaving for abroad enables students to see the world at large, to see new things and places (12%). 9% of the respondents have fully assessed the advantages of the Western standards of personal freedom. 7% of them emphasize a purely professional approach: their stay abroad would enable them to improve their skill, and 6% of them have highlighted another positive factor: the more just system of labor estimation. An insignificant number of students (0.7%) is interested in doing business abroad.

10. *Restraining factors*

What is holding back the realization of the wishes by those who have decided to leave the country?

The young people fear most of all financial and economic difficulties. In the first place, the high fare (40%). Furthermore, students (nearly 30%) fear that nobody will support them materially, while abroad, and lastly, they will have no housing to live in at first (about 18%).

Parting with parents and relatives does not frighten them that much (16%); not in the same way, anyway, as the lack of knowledge of a corresponding foreign language (14%).

Some respondents are worried about organizational difficulties, such as getting visas (about 8%) and the lack of confidence in a possible return home, in case of necessity (5%).

A minimum number of respondents (3%) have also indicated, as a restraining factor, their parents' objections.

11. *Different migration strategies*

A large group of positive respondents (41%), in terms of going abroad, have also indicated that they would go and live abroad, but only for some time. An equal number of respondents would like to continue their studies or fieldwork abroad. Another 3% would like to leave the country at all costs.

12% of the respondents plan to emigrate, that is, to change the place of their permanent residence (8% of the total students polled). This level of emigration intentions must be regarded as very high, since it corresponds to the level of internal movement of people.

Emigration intentions are strongest among mathematicians (14% of those who think about departure) and physicists (12.7%). Similar indicators are harnessed for students in engineering and technical faculties (9%). If compared with mathematicians, indicators for humanities' students are exactly half (7.7%).

The greatest number of potential emigrants may be found among Ukrainians (12.5%) and among Russians (10%). Very few of them are found among Tatars (4.6%). As for Jews, all the proportions are sharply in favor of departure for a new permanent residence (46%).

12. *Destination countries, departure routes, concrete steps*

Countries of preferred destinations were indicated without any prompting. The USA turned out to be the indisputable leader (49%), followed by Germany (26%), Great Britain (22%) and France (15%). Other European countries were selected by a considerably smaller number of students (all in all, 27%). Canada (14%) and Australia (14%) were mentioned very often. Other non-European countries picked up about 9%. Nearly 2% of the respondents are ready to go to any country in the world.

The students regard an official mission for training and fieldwork as the main route for departure (43%). About one-third of them pin their hopes on the issuing of a new Law on free departure. In 23% of cases this hope is linked to explicit invitations to leave for a visit. Some 7% of potential emigrants dream about the conclusion of a marriage with a foreign national and 5% of them plan to go abroad as a member of an emigrating family.

One-fourth of the students who thought about departure during our interviews had taken concrete steps in order to realize their designs. The intensive study of a foreign language (31% of leavers) looms large in the background. This is followed by a set of measures prompting students to realize their professional goal: a search of creative contacts (15%), writing to foreign companies (9%), application to foreign universities (8%), taking exams and undergoing tests (8%), appeals to international funding agencies (3%), and participation in international scientific contests (2.5%). Other less utilized methods include appeals to foreign embassies (3%), expected invitation from relatives and friends residing abroad (2.5%), attempts to buy forged invitations (2.5%).

13. *Conclusions*

In the course of our analysis we have attempted to find the answer to the chief question raised by our investigation: what is the likeness of the potential drain of university students, the most intellectually educated and professionally trained section of young people from the former USSR?

We shall now endeavour to answer this question: on what real scale can the emigration of students take place?

We believe that students complying with the following two criteria are the most probable candidates:

(1) those who think in earnest about the change of their permanent residence, about leaving for abroad by any means or at any cost or who are seriously inclined to continue their studies or training abroad;

(2) those who are very active in searching for a practical implementation of their desire to leave the country.

The students who meet these two criteria simultaneously make up 10.6% of those who are positively inclined to leave for abroad and 7.3% of all the respondents.

The typical portrait of a student emigrant may be outlined as follows:

- more often than not he is a young man (almost twice more often than a girl);
- he is a Russian, an Ukrainian, more seldom a Jew and still more seldom a Tatar. Jews want to emigrate three times more often than Russians, but they are few among the students. Tatars want to leave the country three times more seldom than Russians;
- in most cases he is unmarried;
- comes mainly from Moscow and St. Petersburg and even from the capitals of the former Soviet Union's republics;
- a programmer, mathematician, physicist, engineer, rather than a humanist;
- for sure is not a resident of a small town or village before being enrolled in an university.

Potential emigrants come from the students' elite!

- they study better than others (the average exam mark of 4.5 and higher was scored by 55% of potential emigrants, as against 40% of the total number of respondents);
- they have a higher level of computer literacy (36% of them have mastered personal computers, as against 27% of the total);
- they know foreign languages better (13% speak fluent English; only 5% in the entire sampling);
- in the majority of cases they came from an intellectual stock with both parents having had a higher education (68%); the average value for the whole sampling being 51%.
- they have more personal contacts with foreign countries through relatives, friends and acquaintances abroad (61%) with the average level being 33%.
- they have had more experience of staying abroad on their own (38%), or their parents have had such experience (58%) in former socialist countries, as against an average for the whole group of 26% and 44%. The parents of 95% of potential emigrants are well informed about their plans and 81% of those parents approve of their desire.

This tremendous moral support given by the parents to their children's intentions to emigrate is a further evidence of the fact that this kind of student represents the social stratum of society which evidently has exhausted the

possibilities of its development and realization of its intellectual potential within the former USSR. As a result, the younger generation, chiefly the most clever, educated, serious and confident, are going to leave their country in the hope of finding in the West all that their parents have failed to receive, namely: better living and working conditions consonant to their intellectual and educational potential and conditions conducive to the full and free development of their personality.

This process can't be stopped. But its growth must be regulated in such a way to be of benefit to the sending society as well. It should include, on one side, a two-way exchange of scientific contacts with foreign countries; and, on the other, the creation of stimuli for returning home after spending some time abroad. In this case, many young men may hopefully return, bringing additional knowledge and experience to their own country.

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Les scientifiques marocains à l'étranger

1. *Introduction*

Le développement des ressources humaines constitue pour le Maroc un atout majeur, apte à lui ouvrir les voies du progrès, de la prospérité et de la croissance. Les ressources humaines dans notre pays ont connu, depuis l'indépendance, une croissance remarquable tant quantitative que qualitative confirmée par les expériences vécues dans les différents secteurs de l'enseignement supérieur, de la recherche scientifique et de l'industrie. Ainsi le Maroc compte aujourd'hui treize universités implantées dans les grandes régions du royaume et plus d'une dizaine d'instituts de formation supérieure dépendant des ministères techniques. L'Université Al Akhawayn d'Ifrane (trois facultés) ouvrira ses portes en janvier 1995 à 2.300 étudiants, l'enseignement étant principalement assuré en anglais. Le nombre d'étudiants dépasse aujourd'hui de loin le chiffre de 250.000 avec un taux de croissance annuelle moyen de 8%. Le nombre d'inscrits en 3ème cycle avoisine les 16.000 chercheurs toutes spécialités confondues.

Cette politique a permis dans une première étape du développement du pays, de satisfaire les besoins en cadres nationaux dont une grande partie a été formée à l'étranger (en France notamment). Cependant, à partir de 1983, cette politique va connaître une crise d'adéquation sans pareil qui s'est traduite par l'apparition de chômeurs diplômés et par la réduction des possibilités d'insertion professionnelle.

La conséquence de cette situation est l'augmentation du nombre de chercheurs qui souvent du fait de l'absence d'un environnement de recherche scientifique et technique au Maroc même, s'expatrient ou s'établissent dans les pays où ils ont effectué leurs études supérieures. Cette situation, cependant, contribue à un certain rayonnement intellectuel du Maroc de par le monde.

Cette communauté scientifique marocaine installée à l'étranger a fait ces dernières années, l'objet d'une préoccupation des autorités gouvernementales marocaines qui s'est traduite par la décision du Ministère d'Etat Chargé des Affaires Etrangères et de la Coopération, du Ministère de l'Education Nationale et du Ministère des Affaires de la Communauté Marocaine à l'Etranger en

collaboration avec le PNUD d'organiser une première rencontre sur le transfert de technologie par les scientifiques marocains résidant à l'étranger.

Le présent document donne d'abord quelques données disponibles sur la présence à l'étranger de cadres supérieurs, professions libérales, chefs d'entreprise marocains installés à l'étranger (notamment en France). Ensuite il aborde l'approche du phénomène "fuite des cerveaux" au Maroc et fait état des objectifs de cette rencontre ainsi que des caractéristiques socio-professionnelles des participants. Il évoque aussi les résultats, les résolutions et les recommandations issus des travaux de cette 1ère rencontre. On terminera ce document par la présentation des projets de coopération en matière de transfert de technologie et de formation des ressources humaines marocaines hautement qualifiés.

2. *Données sur la présence à l'étranger des compétences marocaines: les marocains installés en France*

Les données sur l'émigration et l'établissement à l'étranger de cadres supérieurs et de professions libérales sont fragmentaires. Mais signalons que dans le recensement de la population en France en 1990, 5272 cadres supérieurs et professions libérales marocains (contre 1000 en Hollande) faisaient partie de la population active.

Le tableau n° 1 nous montre qu'ils représentaient 6,09% de l'ensemble des cadres supérieurs et professions libérales de nationalité étrangère installés en France. Le nombre de cadres de nationalité étrangère établis en France s'élevait à 86.501 personnes. 18,74% des cadres supérieurs et professions libérales de nationalité marocaine recensés en France en 1990 étaient de sexe féminin. Il y a lieu de signaler que ces chiffres ne comprennent pas les marocains ayant acquis la double nationalité et qui sont d'après les estimations plus nombreux que ceux qui ont gardé la nationalité marocaine.

Le tableau n° 2 nous montre que plus d'un tiers des cadres supérieurs et professions libérales maghrébins recensés en France en 1990 était de nationalité marocaine. Près de la moitié était de nationalité algérienne contre plus de 17% de nationalité tunisienne.

Tableau 1 – *Professions libérales et cadres supérieurs marocains recensés en France en 1990*

Cadres supérieurs et professions libérales	Masculin	Féminin	Ensemble
Professions libérales	364	120	484
Cadres de la fonction publique, professions intellectuelles et artistiques	2540	404	2944
Cadres d'entreprises	1380	464	1844
Ensemble	4284	988	5272

Source: Recensement de la population de 1990 - Résultat au 1/20 - INSEE - France

Tableau 2 – *Professions libérales et cadres supérieurs maghrébins recensés en France en 1990*

Cadres et professions supérieures	Algérie	Maroc	Tunisie	Ensemble
Professions libérales	572	484	262	1320
Cadres de la fonction publique, professions intellectuelles et artistiques	3632	2944	1292	7868
Cadres d'entreprises	3408	1844	1224	6476
Ensemble	7612	5272	2780	15664

Source: Recensement de la population de 1990 - Résultat au 1/20- INSEE - France

3. *L'approche du phénomène "fuite des cerveaux" au Maroc*

Alors qu'un certain nombre de pays en voie de développement s'est contenté d'aborder ce phénomène à partir de ses manifestations négatives, essayant de les résoudre sans approfondir la réflexion sur les raisons et les causes qui ont donné naissance à ce phénomène, prenant la décision de rappeler leur chercheurs expatriés, ce qui s'est traduit dans la majorité des cas par un échec, le Maroc quant à lui a décidé d'aborder le phénomène sous ses différents aspects tant négatifs que positifs, avec l'espoir de pouvoir privilégier le côté positif et d'atténuer ou d'alléger les conséquences négatives.[1]

Conscient que la présence de chercheurs marocains à l'étranger est un facteur positif, le Maroc estime que ceux-ci peuvent jouer un rôle moteur dans le processus de développement de notre pays, notamment à travers les échanges scientifiques entre chercheurs de l'intérieur du Maroc et de l'extérieur.

Traversant une phase de son histoire qui se distingue par un développement rapide et une ouverture positive sur les autres civilisations, le Maroc estime qu'il a besoin de toutes ses potentialités humaines et surtout celles qui résident à l'étranger et qui exercent dans les domaines scientifique et technologique; aussi le Maroc demande à ceux-ci de constituer avec leurs collègues résidant au Maroc un espace scientifique et la base nécessaire au développement de la recherche scientifique et technologique.

Du fait de leur proximité des pôles de recherches internationaux, le Maroc considère que ces chercheurs expatriés sont le trait d'union entre les centres de recherches nationaux et leurs équivalents internationaux.

En fournissant au milieu scientifique marocain une information constamment actualisée, en encourageant le partenariat marocain dans les programmes de recherches internationaux, en diffusant la production scientifique marocaine

[1] Voir discours de Monsieur T. CHKILI, Ministre de l'Education Nationale, à l'occasion de la séance d'inauguration de la première rencontre sur le transfert de technologie par les scientifiques marocains expatriées, Rabat, du 5 au 8 juillet 1993.

sur le plan international et en participant de façon active dans le programme national de formation et de recherche dans le respect de l'éthique et des lois internationales, les chercheurs marocains résidant à l'étranger permettront au Maroc de suivre les mutations technologiques dans le monde.

Ainsi, grâce à la présence de ces scientifiques installés à l'étranger et par le biais de structures appropriées pour l'échange scientifique et le transfert de technologie, le Maroc pourra profiter des expériences des pays industrialisés.

4. *Le transfert de technologie par le biais des nationaux expatriés (TOKTEN)*

C'est l'intitulé d'un projet signé le 8 juillet 1990 entre le gouvernement marocain et le PNUD. Sa gestion est assurée par la Direction Générale de la Coopération Internationale (DGCI) - Ministère d'Etat aux Affaires Etrangères et de la Coopération. Il a pour objectif de favoriser le développement économique et social du Maroc par la mobilisation au moindre coût des meilleures compétences techniques nationales exerçant à l'étranger et couvrant un large éventail de secteurs de pointe. Ces spécialistes marocains expatriés sont invités en qualité de consultants pour des missions de courte durée au Maroc, allant de deux semaines à trois mois.

L'Ecole Mohammadia des Ingénieurs (E.M.I.) de Rabat est la première institution à avoir bénéficié des premières missions TOKTEN. Six scientifiques marocains résidant à l'étranger (France, Grande Bretagne, Suisse, Canada) ont participé à des réunions techniques (exemple: journées d'analyse numérique), à des séminaires et à des examens de thèses et ont donné cours et des conférences. Mieux encore, ils ont pu faire bénéficier à des collègues et à des étudiants de l'E.M.I. de l'expérience des institutions européennes auxquelles ils sont rattachés en les faisant inviter pour des recherches ou des stages à l'étranger.

En 1991, le gouvernement marocain exprima son appui de principe au processus TOKTEN. Il proposa la tenue d'un colloque national pour répandre au Maroc, l'idée TOKTEN, proposition qui fut appuyée par les départements ministériels, les écoles, les facultés et les instituts de recherche.

5. *Objectifs, organisation et programme de la 1ère rencontre*

La mobilisation de la communauté scientifique nationale résidant à l'étranger afin de favoriser sa participation au développement économique, scientifique et technique de la nation était le principal objectif de cette 1ère rencontre. Cette participation devant se matérialiser à travers l'établissement de réseaux d'échanges et de transfert de technologie. Ces réseaux permettront d'accroître et de multiplier les compétences techniques, les innovations et les réalisations de spécialistes et de personnels qualifiés résidant au Maroc.

La 1ère rencontre sur le transfert de technologie par les scientifiques marocains expatriés a été organisée avec la collaboration du P.N.U.D.. Elle s'est tenue à l'Ecole Mohammadia d'Ingénieurs à Rabat du 5 au 8 juillet 1993. Présidé par

l'Ecole Mohammadia d'Ingénieurs, le comité d'organisation chargé des préparatifs de la rencontre était composé de représentants de ministères et de responsables d'institutions de recherche (Centre National de la Coordination de la Planification de la Recherche Scientifique et Technique, de l'Institut National Agronomique et Vétérinaire Hassan II, de l'Ecole Nationale d'Industrie Minérale).

Le programme de la rencontre comportait deux volets:

– Le premier était constitué de conférences-débats autour de thèmes en rapport avec la recherche scientifique et le développement technologique. Le but étant de faire l'état de la situation actuelle des réseaux d'échanges et de transfert de technologie.

– Le deuxième volet consistait en des visites de sites industriels qui permettront de prendre connaissance des niveaux de développement de notre pays dans certains domaines vitaux (Travaux Publics, Formation des Cadres et Formation Professionnelle, Energie, Mines, Phosphates, Transport Aérien, etc.).

6. *Caractéristiques des participants (provenance, spécialités et catégories socio-professionnelles)*

Plus de 170 personnes toutes marocaines en provenance de l'Allemagne, de l'Autriche, de la Belgique, du Canada, des Etats-Unis, de la France, de la Finlande, de l'Italie, de la Suisse, de la Suède, de la Yougoslavie, de la Grande Bretagne et de l'Arabie-Séoudite, ont participé à cette rencontre sur le transfert de technologie par les scientifiques marocains expatriés.

Tableau 3 – *Répartition des participants selon les pays*

Pays	Effectif	%
Arabie-Seoudite	1	0,58
Allemagne	7	4,07
Autriche	5	2,91
Belgique	3	1,75
Canada	24	13,95
Etats-Unis	25	14,53
France	90	52,33
Finlande	1	0,58
Grande-Bretagne	2	1,16
Suede	1	0,58
Suisse	10	5,82
Italie	1	0,58
Yougoslavie	2	1,16
Total	172	100,00

La rencontre a rassemblé également un nombre équivalent de scientifiques résidant au Maroc, représentant les différents établissements universitaires et de recherches, les laboratoires et les secteurs économiques et industriels.

Les participants à la 1ère rencontre sur le transfert de technologie proviennent de 13 pays différents, répartis comme suit: plus des deux tiers des participants proviennent de l'Europe. La majorité provient de la France (52,32%) et du continent américain (28,48%) dont 13,95% des U.S.A. et 14,53% du Canada (voir tableau n° 3). Ils appartiennent aux domaines de spécialisation les plus avancés (voir tableau n° 4) et atteignent des positions d'autorité professionnelles hiérarchisées (professeurs d'enseignement supérieur, personnels scientifiques, industriels, ingénieurs, professions libérales, cadres supérieurs) (voir tableau n° 5).

Tableau 4 – *Répartition des participants selon les spécialités*

Spécialités	Effectif
– Les Sciences de l'ingénierie	50
– Les Sciences médicales	14
– Les Sciences de la vie	9
– Les Sciences de la terre	5
– Les Mathématiques fondamentales et appliquées	32
– Les Sciences expérimentales	32
– L'Economie, gestion, et sciences humaines	19
– Les Secteurs industriels (PMI, PME) et les multinationales	11
Total	172

Tableau 5 – *Répartition des participants selon catégories socio-professionnelles*

Catégories socio-professionnelles	Effectif	%
a) Professions libérales et cadres supérieurs:		
– Professions libérales	10	
– Ingénieurs	23	86,05
– Professeurs d'enseignement supérieur	65	
– Personnels scientifiques	50	
b) Patrons de l'industrie et du commerce:		
– Industriels (chef d'entreprise, gérant de société)	10	5,81
c) Autres (divers):		
– Fonctionnaires ou experts internationaux	8	8,14
– Divers	6	
TOTAL	172	100,00

7. *Le déroulement des travaux*

Les travaux de la rencontre ont d'abord porté sur l'analyse de l'état de la recherche scientifique au Maroc qui se trouve essentiellement au niveau du secteur public lequel comprend un pôle universitaire organisé en 13 universités sous la tutelle du Ministère de l'Education Nationale et un pôle non universitaire sous la tutelle de divers ministères techniques (Agriculture, Travaux Publics, etc.). L'analyse de l'état de la recherche scientifique a révélé un certain nombre d'acquis mais aussi des contraintes.[2]

Les acquis. Il s'agit de: l'importance d'une communauté scientifique et de qualité dans toutes les disciplines; la densification de réseaux scientifiques (associations, colloques, etc.); la naissance d'une presse spécialisée contribuant à une meilleure diffusion d'une culture scientifique; le développement de la recherche contractuelle entre établissements universitaires et industriels; la coopération scientifique internationale diversifiée et importante.

Les contraintes. L'on citera: une perception des enjeux de la recherche encore insuffisante; un tissu industriel en voie de structuration qui ne peut pas prendre en charge l'effort de la promotion de la recherche au Maroc.

Des expériences nationales[3] et étrangères[4] en matière d'échanges scientifiques et de transfert de technologie ont été ensuite présentées. Au niveau national, il s'agit du projet TOKTEN (Transfert Of Knowledge Expatriate Nationals) ou en français (transfert de technologie par le biais de nationaux résidant à l'étranger). Il s'agit également du projet "aide à la formation scientifique et technique de cadres" lequel s'adresse aux chercheurs nationaux exerçant dans les institutions marocaines et qui souhaitent parfaire leur expertise à l'étranger au moyen de missions de caractère scientifique et de courte durée.

Les débats sur la coopération universitaire internationale au Maroc[5] ont fait ressortir que les différentes formules de coopération (avec le monde arabe et africain, avec le continent américain, avec les pays européens, et avec la Communauté Européenne) ont varié à travers le temps et aussi en fonction des pays, et que les diverses actions qui couvrent toute la gamme des disciplines académiques ont permis jusqu'à présent de réaliser des échanges et des activités de recherches et d'assurer la mobilité d'enseignants et d'étudiants. Cette coopé-

[2] *Réflexion sur la gestion de la recherche scientifique au Maroc* - Communication présentée par Monsieur T. BENNANI, Directeur de l'Ecole Mohammadia d'Ingénieurs, à l'occasion de la première rencontre sur le transfert de technologie par les scientifiques marocains expatriés, Rabat, du 5 au 8 juillet 1993.

[3] Intervention de Monsieur A. BENMOUSSA - Directeur de la coopération économique Multilatérale au Ministère d'Etat Chargé des Affaires Etrangères et de la Coopération, à l'occasion de la première rencontre sur le transfert de technologie par les scientifiques marocains expatriés.

[4] *TOKTEN in Egypt - an experience in the utilisation of expatriate human ressources* - Communication présentée par M.B.E. FAYEZ, National research center, Cairo, Egypt, à l'occasion de la première rencontre sur le transfert de technologie par les scientifiques marocains expatriés.

[5] *Vers une nouvelle stratégie de la coopération universitaire internationale*, communication présentée par le professeur A. BENNANI, Doyen de la faculté des lettres et des sciences humaines - Université Hassan II, Mohammadia, à l'occasion de la première rencontre sur le transfert de technologie par les scientifiques expatriés.

ration a permis également aux enseignants-chercheurs marocains de confronter leurs méthodes de travail et leur savoir, d'échanger des idées et d'aborder les questions universitaires, scientifiques et techniques en fonction du contexte national, régional et international.

Il ressort des débats sur la Privatisation et le Développement que l'incidence immédiate d'un programme de transfert du secteur public au privé concerne l'entreprise, le marché financier, les finances et les capitaux étrangers.[6]

Les exposés débats de la rencontre ont enfin abordé les emplois sectoriels (eau, énergie, télécommunication, agronomie, santé, etc.).

Des groupes thématiques (Agriculture - communication - eau - économie - énergie - sciences de la terre - sciences de la vie - sciences fondamentales - technologie) visant la création de réseaux d'échanges et de transfert de technologie où serait impliquée la communauté scientifique marocaine à l'intérieur du pays et à l'étranger, ont été constitués. Les objectifs visés par la constitution des groupes thématiques étaient les suivants:

– Mobiliser le plus grand nombre de compétences scientifiques et industrielles marocaines au sein de réseaux d'échanges et de transfert de technologie. Ces réseaux travailleront sur la base de programmes de recherches scientifiques et techniques et d'actions d'échanges de connaissance et d'expériences s'inscrivant dans les priorités nationales.

– Favoriser l'introduction au Maroc de technologies avancées aussi bien au niveau de la formation et de la recherche, que celui de l'utilisation et de la production industrielle.

– Promouvoir la communication entre les scientifiques marocains par: l'édition de supports d'informations scientifiques, et techniques (ouvrages scientifiques, monographies, revues) et la constitution de banques de données, et de support audiovisuels; l'organisation de journées scientifiques, de séminaires, de colloques et de rencontres diverses; l'encouragement à la mobilité des scientifiques marocains pour accomplir des missions ciblées d'échanges et de transfert de technologie.

– Assurer une ouverture vers les techniques de pointe dans les établissements nationaux, à travers des programmes de formation de formateurs, de formation par la recherche et de formation continue.

– Etablir et renforcer les liens de coopération entre les entreprises marocaines à activité technologique et les entreprises et industries étrangères, notamment celles détenues par les marocains.

– Encourager les industriels marocains installés à l'étranger à faire bénéficier le Maroc de leur expérience et savoir-faire à la création ou la participation à la création de filiales ou d'entreprises semblables dans le pays.

– Intensifier la participation des scientifiques marocains dans les programmes scientifiques des organismes de coopération régionale et internationale: UNESCO, ISESCO, ALESCO, PNUD, ONUDI, CNUCED, FAO, OMS, AIEA, CEE, UIT.

[6] Actes de la première rencontre sur le transfert de technologie par les scientifiques marocains expatriés, Rabat, du 5 au 8 juillet 1993.

8. *Résultats, résolutions, conclusions et recommandations issus des travaux de la rencontre*

Après avoir souligné au cours de ces travaux que le Maroc dispose d'un potentiel nécessaire pour mener une recherche scientifique active, que se sont les projets menés par cette recherche nationale qui focaliseront la coopération entre scientifiques marocains de par le monde, et que seule la recherche nationale est en mesure de répondre aux besoins de transfert technologique vers l'industrie nationale, l'on a conclu qu'il était indispensable de mener au Maroc une politique nationale de promotion de la recherche scientifique et technique reposant sur les principes suivants:
– Elaboration d'une stratégie nationale de la recherche (grandes priorités et ressources appropriées).
– Constitution d'une instance nationale responsable de l'orientation, de l'organisation et de l'évaluation de la recherche.
– Augmentation des moyens financiers alloués à la recherche scientifique et technique, de façon à dégager la masse critique nécessaire à son développement. Cette masse critique devant rapidement atteindre 1% du P.I.B.
– Revalorisation du statut des enseignants chercheurs dans le sens d'une motivation à la production scientifique.
– Assouplissement des procédures administratives de gestion de la recherche, pour les rendre compatibles avec les exigences de créativité et d'autonomie liées à la production scientifique. En particulier, instaurer un contrôle financier à posteriori pour les programmes de recherche et généraliser "le compte hors budget".

Recommandations huit recommandations ont été présentées à l'issue de cette rencontre.

Il s'agit: 1) De constituer des réseaux d'échange et de transfert de technologie regroupant les scientifiques marocains de l'intérieur du pays et de l'étranger, autour de thèmes prioritaires nationaux. Dans ce sens l'exemple d'un réseau autour du thème de l'imagerie a été analysé concrètement. Ces réseaux se baseront, pour leur échange d'informations, de données et de programmes, sur le réseau intermédiaire CHAMA CHABAKAT AL MAGHRIB (dont le point focal est à l'Ecole Mohammadia des Ingénieurs) qui est relié au réseau international INTERNET. 2) D'élaborer, de diffuser et de maintenir à jour l'annuaire des scientifiques et experts marocains à l'étranger; leur faire connaître et les pousser à se rallier aux actions entamées par cette rencontre. 3) De solliciter du Ministère de l'Education Nationale qui est l'autorité responsable de la recherche scientifique, la mise en place d'une structure permanente dont la mission serait d'assurer le bon fonctionnement, la pérennité et l'extension des réseaux marocains d'échange et de transfert de technologie. 4) D'augmenter les budgets de fonctionnement affectés aux programmes et actions de coopération scientifique nationale et assouplir la gestion de ces budgets, afin de permettre aux établissements et aux chercheurs marocains impliqués d'honorer les engagements pris dans le cadre des accords de coopération régissant ces actions et programmes. 5) D'en-

courager les associations scientifiques marocaines et les renforcer par la contribution des scientifiques résidant à l'étranger. 6) De donner la priorité en matière d'expertise aux compétences nationales qu'elles soient résidentes au Maroc ou expatriées. Il s'agit essentiellement de faire impliquer suffisamment les compétences nationales dans des projets nationaux ou de coopération. 7) De créer un cadre d'enseignants associés pour favoriser la contribution des scientifiques nationaux de l'étranger, et mettre sur pied d'égalité, du point de vue des indemnités de séjour, les professeurs visiteurs marocains et étrangers. 8) Et enfin de favoriser autant que possible la présence des experts marocains dans les instances internationales.

9. *Projets de coopération en matière de transfert de technologie*

A l'occasion de la tenue cette 1ère rencontre sur le transfert de technologie par les scientifiques marocains résidant à l'étranger, le gouvernement du Royaume de Maroc et le PNUD ont procédé à la signature de deux importants projets de coopération.

Le 1er projet porte sur un programme de transfert de technologie par le biais des nationaux expatriés, plus connu sous le nom de TOKTEN. Il permettra au Maroc de bénéficier des compétences scientifiques et techniques de ses Ressortissants Marocains Résidant à l'étranger et faciliter la création d'un réseau de coopération continue. De nombreux scientifiques marocains résidants à l'étranger ont déjà apporté leur Know how à des institutions d'enseignement et de recherche dans la mère patrie. Les services rendus dans le cadre de la phase initiale du projet TOKTEN qui avait démarré en 1990 ont ainsi porté sur des domaines très variés et très pointus tels que la modélisation et simulation de nappes souterraines; les systèmes de gestion électronique de l'information; la robotique et le traitement du signal et de l'image; les mathématiques appliquées; l'intelligence artificielle et les algorithmes.

Quant au second projet, il concerne la formation et le perfectionnement technique et scientifique de cadres marocains à travers leur participation à des stages, séminaires et conférences à l'étranger, sur des thèmes couverts par les objectifs de développement du 5ème programme du PNUD au Maroc (1992 - 1996).

10. *Conclusion*

Un grand nombre de cadres supérieurs et de professions libérales marocains aussi bien du point de vue qualitatif que quantitatif (professions médicales, ingénieurs, professeurs de l'enseignement supérieur et personnels scientifiques) se sont installés à l'étranger et participent par la même occasion à l'édification de la civilisation universelle et à porter haut le flambeau de la science et de la recherche.

Traversant une période de son histoire qui se distingue par une ouverture sur les économies industrialisées, le Maroc a besoin de ses compétences quali-

fiées et hautement qualifiées notamment celles qui se sont établies à l'étranger. Celles-ci lui permettront ainsi de participer pleinement à l'économie mondiale du XXI[eme] siècle. Elles peuvent d'abord le servir en étant ses porte-paroles dans les organismes au sein desquelles elles exercent, peuvent ensuite établir des traits d'union entre leurs organismes employeurs et leur pays d'origine et peuvent enfin lui transmettre la technologie nouvelle dans tous les domaines et apporter une contribution à la réalisation de laboratoires et d'institutions spécialisée dans la recherche scientifique.

Suite à la première rencontre nationale et à l'approbation d'une deuxième phase du projet de coopération PNUD/TOKTEN, quelques sept missions d'experts marocains résidant à l'étranger ont déjà été réalisées dans des domaines de pointe tels que le génie logiciel et l'intelligence artificielle, les réseaux téléinformatiques, l'hydrologie environnementale.

Succédant à la première rencontre nationale sur le TOKTEN, une 2ème édition de cette manifestation a eu lieu du 26 au 3 juillet 1994 à la Technopole relevant de l'Office Nationale des Aéroports (Casablanca) et a eu pour thème la recherche développement au service du développement durable: sciences des Communications Globales et nouvelles technologie de l'Agriculture. Elle a regroupé une centaine de chercheurs marocains résidant à l'étranger et autant de chercheurs marocains et opérateurs du secteur privé.

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«Studi Emigrazione/Etudes Migrations», XXXII, n. 117, 1995.

The role of migration in raising the skill level of the labour force

1. *Introduction*

At a time when, in both the East and the West, the institution of the free market has proved its important and indispensable role in the rational allocation of economic resources, another market failure becomes all the more evident. Despite high unemployment, many skills at various levels are in short supply, even in countries with a highly developed educational system. Furthermore, shortages of particular skills in high wage countries coincide with surpluses in the lower wage ones, although about 100 million persons live outside their country of birth. Imbalances in the supply-demand relationship by labour category exist also within the same country, proving that spatial labour mobility is inadequate even at the national level, where movement is free, language problems are non-existent or insignificant, and relevant information is rather inexpensive and not difficult to acquire.

The explanations for this situation are not always clear. It is true of course that, despite the rapid expansion of the educational system at all levels and in all its sections and ramifications (formal and informal, state and private, on the job training and learning by doing), new kinds of specialization are created continuously and many "traditional" ones need upgrading because of the rapid application of new techniques in production. Of the three hundred or so different skills classified by CEDEFOP and other expert international organizations, about one fourth had been completely unknown thirty years ago. Not only does training in the new skills and in those for which demand increases take time; it is also very difficult for persons with low educational attainments, particularly for those who belong to the higher age-groups. Adequate and quick adjustments in the skill structure of the labour force are thus difficult to match with corresponding changes in the skill requirements. It is no coincidence that the three traditional receiving countries USA, Canada and Australia are anxious to increase the skill component in their annual intakes of immigrants (Appleyard R. T., 1991).

It is also true that the employment effects of economic growth are complex with respect to both skilled and unskilled labour. On the whole employment increases more slowly than income because of the rise in labour productivity.

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1. *Introduction*

At a time when, in both the East and the West, the institution of the free market has proved its important and indispensable role in the rational allocation of economic resources, another market failure becomes all the more evident. Despite high unemployment, many skills at various levels are in short supply, even in countries with a highly developed educational system. Furthermore, shortages of particular skills in high wage countries coincide with surpluses in the lower wage ones, although about 100 million persons live outside their country of birth. Imbalances in the supply-demand relationship by labour category exist also within the same country, proving that spatial labour mobility is inadequate even at the national level, where movement is free, language problems are non-existent or insignificant, and relevant information is rather inexpensive and not difficult to acquire.

The explanations for this situation are not always clear. It is true of course that, despite the rapid expansion of the educational system at all levels and in all its sections and ramifications (formal and informal, state and private, on the job training and learning by doing), new kinds of specialization are created continuously and many "traditional" ones need upgrading because of the rapid application of new techniques in production. Of the three hundred or so different skills classified by CEDEFOP and other expert international organizations, about one fourth had been completely unknown thirty years ago. Not only does training in the new skills and in those for which demand increases take time; it is also very difficult for persons with low educational attainments, particularly for those who belong to the higher age-groups. Adequate and quick adjustments in the skill structure of the labour force are thus difficult to match with corresponding changes in the skill requirements. It is no coincidence that the three traditional receiving countries USA, Canada and Australia are anxious to increase the skill component in their annual intakes of immigrants (Appleyard R. T., 1991).

It is also true that the employment effects of economic growth are complex with respect to both skilled and unskilled labour. On the whole employment increases more slowly than income because of the rise in labour productivity.

Irrespective, however, of the way growth is achieved, i.e. through the exploitation of newly found rich natural resources or through the better use of existing ones by means of advanced technology, the demand for skilled labour increases. But so does the demand for low skilled or entirely unskilled labour (mainly for catering, domestic service, street cleaning and the like), as a result of the overall positive employment effect of the increasing income. A further consequence of growth and/or technological progress is to weaken the demand for many "traditional" skills. Therefore economic growth and new technology, even when they proceed at a slow pace, tend to disturb any "equilibrium" existing in the various labour markets.

Finally, the largest part of the international migration is motivated by conditions of extreme poverty and destitution in the sending countries, so that entirely unskilled and low-skilled labour weigh heavily in the structure of the economic migrants by level of skill. Of the 100 million or so total migrants, some 35 million are located in Sub-Saharan Africa, and 15 million in Asia and the Middle East. By contrast, Western Europe and North America account for 13-15 million migrants each, whereas refugees are officially estimated at 17 million (Nafis Sadik, 1993). In these conditions, migration does contribute in lessening the heavy pressure of unskilled labour in the labour markets and in alleviating conditions of hunger in the sending countries. Furthermore, in the receiving ones, immigrants fill vacancies in low-status jobs (seasonal, casual, and those with arduous working conditions and low social prestige) not preferred by the indigenous population, which is covered by generous social insurance in all countries at the high and intermediate stage of economic and social development. But the effect of unskilled or low-skilled migrants on the supply of skills is only indirect, on the whole not very significant and not infrequently negative. The need is therefore obvious for new approaches in coping with the problems on hand. Despite increasing facility of communication which makes it easier to travel and to be aware of the economic and social conditions in other countries, there are limitations in facing skill shortages or supply-demand imbalances in skills through migration, at least in its present structure.

One of the problems faced in migration is that, although most of the relevant variables can be quantified (stocks and flows of migrants by sex, age, years of schooling and marital status, their employment by labour category, amount of remittances sent home and many more), its effects are not easily measurable, as, for example, the long run effect in the supply of skills. In some cases it is not even possible to conclude whether the balance of the effects is positive or negative, either because the socio-economic costs of one country are not at all comparable with the benefits of another, or because the results are dependent on the factors taken into account. An additional difficulty lies in the fact that what appears to be a positive (negative) effect for one country in the short-run, may turn out to be negative (positive) for the same country in the long-run.

The so-called brain and skill drain which is examined below is a case in point. An evaluation of the relevant costs and benefits for the sending country is difficult by the nature of the problems involved, because labour market conditions in it may change continuously, and this development must be weighed at

all stages of the migratory process. The opportunity cost of emigration is zero or very low when, before it, the emigrants are unemployed or employed in low productivity jobs respectively. But it tends to be very high if the reverse is the case. Furthermore, a country may lose a part of its skilled labour through emigration. But emigrant remittances may give it the opportunity to accelerate the rate of expansion of its educational facilities and rapidly increase the supply of skills. Migrant remittances amount to about USA $70 billion annually and make migrant labour second only to oil in international trade (Nafis Sadik, 1993). On the other hand, in favorable conditions returnees with experience in particular skills or professions may contribute substantially to the development of their respective countries.

As the average skill levels of both the emigrant and the immigrant groups vary substantially and labour market conditions differ within each country, there is no unitary impact of either emigration or immigration on the supply and the imbalances in skills. Both aggregate and case studies, however, indicate that the overall effect of migration is positive. But there is no clear consensus on its impact on economic restructuring, which is influenced by the degree of scarcities (or availability) of both the skilled and the unskilled labour. It is, therefore, necessary to emphasize that the brief analysis below is based on certain indications and that the statements made should be taken rather as hypotheses to be tested and not as research conclusions.

To answer the questions about the shortages and the supply-demand imbalances in skills, which cause large losses of output and deprive of a job many of those who badly need an income, it is useful to investigate first the difficulties in raising the skill level and in adjusting the structure of the labour force to the changing labour requirements in production.

2. *Specialization in the educational system*

Today, education and training are very much in need of specialization: at the lower levels, because of the different capacities and educational orientations of the pupils; at the level of the technical and professional school-training, because of the many hundreds of different jobs for which training takes place; and at the post-high school and research level, because of the large number of disciplines in the arts and sciences.

At the higher level, the large amount of existing knowledge requires extensive specialization in the many thousand separate branches of the various disciplines. Specialization is thus very costly and in many cases unattainable, thus compelling every country to use some of the educational and research facilities of others. Because of economic aspects pertaining to all those activities, efficiency increases if countries use well organized, adequately staffed and properly equipped educational and research facilities abroad.

The benefits of specialization in cost reduction and output quality are also relevant to the international trade in educational and research facilities, in its many forms, where nationals study, are trained, do research or gain practical

experience abroad; or they receive in their own country education and training supplied by foreigners working there as teachers, administrators, scientists or technicians. Even large and developed countries cannot afford to run efficiently university courses in all disciplines and kinds of specialization, as, for example, in all branches of medicine, archaeology or foreign languages; neither can they carry out research on a myriad of scientific concerns. For obvious reasons, small and less developed countries need to make more extensive use of relevant facilities abroad.

The special feature of international trade in education and research is that it is based on the movement of people and relates directly to one or more of the many kinds and forms of migration. It differs therefore substantially from the export or import of most material goods, including books, blue-prints and items incorporating new technology, which are simply shipped across the borders. The same difference exists with some services like accounting, computing, information and entertainment, which can be produced in one country and communicated to others through existing modern means. It is obvious, then, that migration is an important factor for the acquisition of skills and that the length of time students, trainees, teachers or trainers remain abroad, as well as the status which they may finally acquire, reflect both the training requirements and the individual preferences. To the extent that governments have control over border crossings, education and research, their policies play a very important role in this kind of migration.

3. *The role of migration in the supply of skills*

In many cases, migration has positive effects on the supply and the proper utilization of skills. In others, its effects on the number of people involved are neutral – "a zero-sum game" – in which what a sending country loses in skills is gained by the receiving country, although the economic and social impact of this transfer may be substantially different for each country. Not infrequently, however, migration results in increasing skill imbalances and in accentuating educational inequality.

Through migration for study or professional training, emigrants have acquired useful skills which could be difficult, very costly or impossible for them to gain in their respective countries. Even in the developed countries a large percentage of persons with high professional qualifications have had their training or part of it abroad. For the developing ones, this is the rule, with a rather limited number of exceptions. Furthermore, unemployed qualified persons who emigrate and find suitable jobs abroad avoid the "de-skilling" process which comes about when skills are not practiced, especially in conditions of rapid technological developments. It should also be mentioned that a substantial part of the technology transfer, including project-tied and independent expert migration, takes place through persons trained in one country and working in another one. Transnational corporations, which have concrete policies backed by adequate investment to relocate their staff, and foreign investment, also play an important role in the supply of skills.

Among the former Socialist countries, as well as between them and other "friendly" or Western countries, a large movement of skilled persons took place, with very positive effects. Its main form was the recruitment of contract workers and expert personnel, the largest contingent being from Viet Nam: at one stage, it had 200,000 workers scattered in different countries of Eastern Europe (Ghosh B., 1991). Most of the contract workers were originally unskilled or semi-skilled, but they were systematically trained or retrained in the host socialist countries. Thousands of experts were also sent from the developed Socialist countries to the less developed ones and to other developing countries, to help them implement their educational and economic policies.

On the basis of this evidence, the substantial contribution of migration in raising the skill level of the labour force and also in reducing the supply-demand imbalances in skills cannot be disputed. But its many and frequently serious negative effects, which result from very different causes, are often underestimated. One case, for example, is that of countries or regions depleted, through emigration, of their skilled labour force or of their most energetic people, who are prone to acquire work qualifications if they are given an opportunity. This kind of emigration may slow down the rate of growth and the creation of new employment opportunities. However, the long term benefits of emigrant remittances, as well as those from likely future return migration should also be taken into account, before any conclusion is drawn on the effect of migration on economic development.

The positive aspect of emigration in avoiding de-skilling, which was mentioned above is more than counterbalanced by a negative one, as migration frequently initiates a process of de-skilling. Its main form is when skilled immigrants from the developing countries undertake well paid unskilled jobs in the more developed ones, and when craftsmen and other skilled workers with previous occupational training do not practice their trade in the host countries for lack of commensurate occupational possibilities. De-skilling was very common during the early stages of the post World War II immigration to Western Europe, when selection procedures were enforced by receiving countries. It has been equally common among the numerous skilled workers and professionals who were fleeing from political, religious or racial persecution or discrimination (Fadlaullah A., in Council of Europe, 1993).

Nowadays, de-skilling is very extensive among persons trained in the former Socialist countries. The limited use of some skills because they become obsolete in productive processes applying advanced technology is equally important for the emigrants to Western countries, as it is for those who ask for jobs in the newly established foreign firms at home. Either because of the large amount of outdated equipment used in production or because, in some cases, the training received was not modernized, millions of persons from the former Socialist countries face a drastic degradation of their skills. The need in the Federal Republic of Germany, after re-unification in October 1990, to "retrain" or pension out a large number of East German university teachers in the social sciences and the humanities, but also in some branches of medicine and engineering, exemplifies dramatically the skill degradation predicament in all the former Socialist

countries. Naturally part of this is the result of technological upgrading and is common to all countries which introduce new techniques in production or simply restructure their economies and thereby change the make-up of the skill requirements.

Another negative effect of migration relates to many of the first generation migrant children who, being of foreign origin, often tend to belong to a disadvantaged social class and turn out to be low achievers. In addition to its serious social implications, this effect indicates that major efforts have to be produced if the second generation is not to be condemned to the lowest positions in society. Not only do those children tend to remain unskilled like their parents, but they also face problems of alienation in the host country. Migrants do see education as important for their children and pressure them to attend and do well at school. But they view education as they view work, as essentially a means to an end. The substantive content of what is taught in school and the values upon which that teaching is based and upon which the school operates are alien. (Nermin Abadn-Unat in OECD 1987, quoting also findings from other OECD studies).

Bilingualism in education is a relevant problem. Anxious to keep their cultural heritage, many sending countries assert strongly the need to teach the language spoken at home. Understandable and very beneficial in many other respects as this policy may be, it is in some cases an additional obstacle for immigrant children to make proper use of the educational and re-training facilities of the host country. The traditional receiving countries (USA, Canada and Australia) also apply policies of bilingualism. But this is mainly due to political reasons, so as to enable citizens to communicate with each other and thus achieve a smoother integration.

Important as all those cases may be, they reflect only one aspect of the problem. Another one is when easy access to cheap, albeit underqualified immigrant labour deters a country from looking for more appropriate capital-intensive methods combined with the use of skilled labour, in order to expand the economy and make it more efficient. The argument against the use of low-paid immigrant labour boils down to indications that its presence prevents the necessary restructuring in certain industries, which is indispensable in order to keep them competitive (Brochmann GR., in Council of Europe, 1993 p.79).

To use but one example, it has been reported that, on the basis of cheap imported unskilled labour, Kuwait has gradually become dependent on cheap labour and planned accordingly its future activities. Yet the real interests of Kuwaitis might be better served through improving internal efficiency by mechanizing activities designed to raise productivity on a pro capita basis and by mobilizing Kuwaitis for higher labour force participation. That could be achieved by making access to foreign labour force difficult or more expensive, a policy which would also tend to force up levels of productivity among the expatriate workforce (Looney R.E., 1992).

One important fact which is usually not taken properly into account is that, despite the dramatic expansion of mechanization and automation, many productive processes have remained as labour intensive, as they have ever been. From picking most kinds of fruit and vegetables, to catering, teaching, social work,

baby-care, errant jobs and many kinds of cleaning, new techniques and the extensive use of capital have not substituted, to any appreciable extent, labour. In other words, they have not reduced the corresponding labour requirements. Neither are there any prospects that this will come about in the foreseeable future. Internal labour mobility on the other hand leaves much to be desired in most countries with "traditional" societies, although a considerable amount of seasonal and casual unskilled work in the more developed countries is actually done by pupils, students, housewives, skilled persons who cannot find more suitable jobs for their qualifications and even tourists, as is the case in the Southern European countries during the seasonal peaks of economic activity in summer.

In these conditions, which admittedly vary significantly from country to country, the limited supply of unskilled labour does not induce the use of more capital, the application of new techniques and the upgrading of the labour force. It may very well result in a loss of potential output, with the obvious negative effects on the rate of growth. Had the substitution of capital for labour been effected, the developed OECD countries would not have employed about 30 million foreigners, mostly unskilled, in order to maintain their high growth rate for almost three decades after the end of the last World War.

4. *Skilled migrants returning to the developing countries*

During the mass emigration to Northern Europe in the 1950's and 1960's it was widely believed that the individual "learning-by-doing" of migrants and the collective learning of their original societies after their return would spark off an automatic process of modernization, a natural corollary of the workers' migration. With the exception of Yugoslavia, which in the early 1970's developed instruments for planning and implementing the return of migrants on a legal basis, countries relied mainly on the initiative of individuals or social groups, although these activities were more or less intensively supported by official agencies. The result has been very poor, because, in most cases, the returnees had experienced only negligible occupational upgrading for various and very understandable reasons: inadequate knowledge of the language and other social practices of the receiving country; lack of interest in advancing its own learning; preference to earn more in the short run by working over-time or in high wage jobs without professional advancement than to maximize income from work in the long run through occupational upgrading.

In addition, the majority of returnees belong to groups which can hardly contribute to raising the skill level of the labour force. Many are unable to adjust to the new work and social environment in the host country and so go back home. Others return at retiring age and some are less skilled, in worse health and more affected by personal or family problems than the average emigrant. Migrants who have acquired a good occupational qualification and have managed to overcome the many problems associated with living in industrial societies tend not to return. Besides, the more enterprising returnees are often discouraged by the economic and social backwardness of the areas where they return. The economies of many countries, including those in Southern Europe, most of those

in the Middle and in the Near East, and many in Eastern Asia and South America have "taken off" in the last two decades, so that primitive conditions in them hardly exist, even in the rural areas. In many other countries, however, progress is very limited. Although urban centers maybe experiencing rapid technological and institutional change, both economic and social institutions are still primitive in most rural areas, where about half of the population lives. In those conditions the innovative efforts of the returnees could not meet with great success.

Neither have there been spectacular results from the so-called workers' companies, established mainly in Turkey and Greece with the help of the German government and the authorities of those countries. They have been designed to use the skills and the savings of the returnees for the creation or expansion of modern activities in the industrial sector but they have exhibited only modest modernization effects upon their economic and social surroundings (see Koemer H., in OECD 1992, for the observations of various scholars and a detailed discussion on the issue of the returnees). Return migration of graduates and professionals has very different effects on developing countries, as shown in the following chapter.

5. *Is there a brain and skill drain in the long run?*

Because of its important role in technological progress and economic development, and also because of its serious policy implications, the large flow of skilled persons out of a country which is not matched by sizeable return flows of the corresponding labour is a much debated issue in the literature on foreign migration. The expression "brain drain" was first used in the 1960's to describe the case of a mass outflow to USA of British scientists and other highly qualified experts. Later on, the word skill was added and its meaning was enlarged to include technicians, middle management and other middle level skills moving from the developing to the developed and the mineral and oil resource rich countries. In both cases, the word "drain" signifies a loss or a waste, raising the question of the extent to which flows of qualified persons out of a certain country constitute a definite loss. If so, what are the real costs and benefits for the countries involved? Obviously, an unqualified Yes or No answer would be highly inappropriate to any of those difficult questions.

To begin with, there are substantial benefits for the receiving countries in the short run. Not only are talented and trained persons in short supply, but also immigrants tend to be more mobile and flexible than the indigenous population. In addition, the upbringing and training of the immigrants has cost nothing to these countries, whereas, being mostly young, healthy and without families, for many years after their arrival the immigrants make limited use of the social infrastructure. Even more limited is their use of the subsidized part of it (medicare, housing, low grade schools). Their salaries apart, the only cost of their employment are their remittances in foreign exchange.

Not counting the initial benefit for the receiving country derived from having employed skilled labour with no reproduction cost, the other benefits fade

gradually away with the passage of time, as immigrants "indigenize" and their attitudes and preferences adjust to those of the rest of the population. For some of them there is also a return home before retiring age, in which case it is the receiving country which now loses in terms of training and experience acquired in it and utilized elsewhere. Naturally, a cost-benefit analysis of this kind of migration can be conducted in separate case studies for each receiving country during a certain time period. To reach valid conclusions more factors than the ones mentioned above should be taken into consideration: for example, the extent to which deskilling takes place through migration, the likely displacement of equally skilled indigenous persons and the likely conflicts in the local labour markets.

At first sight, what constitutes a benefit for a receiving country is a cost for the sending one, and vice versa. This, however, is a very naive hypothesis, the zero sum game approach mentioned above, supported by no evidence whatsoever from any form of migration. Unless it is caused by persecution of any kind, migration has overall positive effects, i.e. the benefits for the countries and the individuals involved exceed the costs. But, as in the case of the receiving countries, the length of the period examined and the employment situation in the sending country during the time of emigration and later on affect both costs and benefits. In the short run, the only real benefit for the sending country is the flow of remittances, particularly when emigrants maintain close contacts with their respective home country and contribute in shaping its academic, business and political life. It should not be forgotten, of course, that in democratic countries emigration is not a control variable of the government.

Unemployed and underemployed persons in the sending countries during the time of emigration have a very low opportunity cost, even if they are highly qualified. As already mentioned above, they also face the danger of losing their actual qualifications if they remain for some time inactive, because they cannot keep up with the usually rapid technological developments. Is it then better for them and for their respective countries to remain at home or to emigrate? There is no consensus among academics and politicians on this issue. Different opinions, however, are mainly based on different expectations each one has about future economic and demographic developments, with or without emigration. Historical evidence is also conflicting because of the many factors involved. No matter how densely populated a country is, it can advance its economic and social development without emigration if it secures access to capital and maintains an efficient public administration.

Furthermore developments in the economy and in the educational system may alter significantly the form of migration for the sending countries. In Greece, for example, the number of universities and similar institutions increased from six in the early 1950's, when massive emigration to Northern Europe and overseas started, to seventeen three decades later (between 1950 and 1973 nearly 1 million persons settled abroad, out of a population of 7.6 million in 1951 and 9.7 million in 1981). During that period the number of full-time students increased from 12,000 to 120,000. The corresponding expansion of the "home" market for academics, which could not have been achieved without the large flow of

returning Greeks who had studied or gained teaching and research experience abroad, changed dramatically the size and the structure of both the outward and the return flow of students and of qualified persons.

The number of Greek students abroad remains very large (about 40,000), reflecting both the sharp demand for post high-school education and the strict numerous clausus in all faculties of the tuition-free state universities. An additional factor is the constitutional constraint for official accreditation of the half a dozen fee-charging four year colleges which function in the country (practically all of them associated with fully accredited universities abroad). A large percentage of those students find jobs abroad after graduation, but the reverse flow is also very large, as evidenced by the fact that most of the newly appointed teachers and researchers in the country come directly from abroad. Furthermore, a large and continuously increasing number of academics in the country assume teaching and research responsibilities in other countries. It may therefore be interesting and very useful to examine the structure of the two flows and compare their relative size. The most important fact, however, is that the situation of "brain drain" in the 1950's has developed into an extensive academic exchange between Greece and other countries undergoing various stages of economic growth. The developments described above are about the same not only in relation to academics from other countries at the intermediate stage of economic development like Greece, but also in relation to those from the less developed ones. It has been reported for example that 55% of the Egyptian original emigrants to the United States, Canada and Australia in 1962-1990 had held scientific and technical positions (Fahmy A. 1992). Many others have emigrated to Europe; from it Egypt receives a large number of engineers and other experts. There is also a very large exchange of experts among the Arab countries.

Concerning, therefore, the very important although not sizeable group of the highly qualified university teachers, researchers and other graduates, the evidence suggests that migration contributes to raising the skill level of the labour force. In the short run, the cost for the sending countries has been in most cases substantial and it is only partly offset by the remittances sent home. Rather different is the case for the receiving countries which hold overwhelmingly the balance of the benefits, with hardly any substantial cost. Given however that national affinities remain very strong, especially for the first generation migrants, the stock of the qualified nationals abroad creates a pool of precious skill and experience, from which the original sending countries can draw, and usually do, in order to implement their educational and technological policies and further their economic development. On the other hand, the repatriation of some academics and other highly qualified persons of foreign origin has little effect on the developed countries, because of the existing large stock of this labour category and the equally large size of their educational system.

In the early post World War II period, there was great anxiety in many countries at the intermediate stage of economic development because many of their nationals who had studied in the more developed countries were staying on after graduation, while others graduating from universities at home were emigrating. The anxiety was justified on account of the very limited supply of services by qualified persons in the home country and the purchase of those

services from the countries of expert immigration. In the medium and the long run, however, this situation has changed gradually to one of mutual and highly beneficial exchanges of qualified persons.

With the lower skills the situation is somewhat different for the sending countries. A sizeable flow of trained persons out of a poor country using scarce resources in its educational system is certainly a drain in the short and even in the medium term. This, for example, is reported to be the case with Sudan, which in the 1970's and 1980's experienced the emigration of a high percentage of graduates from the technical and professional schools to the oil producing Arab states (IOM Rapport of the 1992 Cairo conference on Arab Migration). But as the reverse flow of emigrant remittances in foreign exchange starts, the "loss" may be partly counterbalanced by financial benefits. The benefits increase when some of the emigrants return and work at home, using the experience acquired in the receiving country. Naturally, of great importance for the number of benefits and costs are the policies of the developing countries to making proper use of the remittances in foreign exchange and to creating the right employment opportunities for their qualified persons.

6. *Policy options*

The educational and macroeconomic policies of the developing countries aimed at a better utilization of their human resources have been discussed very often and at various levels. Although knowledge and experience on those issues can never be considered adequate, there is a large stock of them, from which interested countries can draw. The analyses from various international organizations and the recommendations thereof can also be of great help. The rather limited success observed in this field is, therefore, mainly due to other constraints which are difficult for any country to overcome, especially in the short-term. Financial constraints for the expansion of the educational system, social constraints to face the need for long on-the-job training after graduation and the shortage of liquid capital for large scale investment which is, in very many cases, indispensable for the creation of new employment opportunities are some of the factors preventing good progress.

Various statements from international organizations reveal a concern about the role of migration in the supply and proper utilization of skills. They also point to the fact that many developing countries have lost and some still lose through emigration a large part of their skilled labour force and especially those who come out of the middle and higher level vocational schools. According to the Recommendation 46 of the Second International Conference on Population in 1984: "Governments of countries of origin concerned with the continuing outflow of skilled workers and professionals should seek to retain those workers as well as encourage their return through, inter alia, the promotion of the economic environment favorable to the expansion of employment opportunities. To redress the existing balance of skills, Governments should try to identify alternative skill resources. Governments should formulate national and international

measures to avoid the brain-drain from developing countries and to obviate its adverse effects" (United Nations, 1984).

On the same subject the Joint IOM-Egyptian Government Seminar in Cairo in November 1992 came out with the recommendation that "International Organizations should help developing countries of origin to attenuate the negative effects of the out-migration of many of their highly skilled and skilled nationals, through providing return and reintegration assistance, including further vocational training" (IOM Rapport, 1993).

The conclusions of the analysis above are fully in line with and prove the validity of those recommendations. According to those conclusions in the short run the developed countries have all the benefits from skilled workers and professionals settling in them, whereas the developing ones have the cost of losing them (high or low cost, depending on the labour market conditions in each country). The migrants' remittances are the only benefit for the developing countries. It was indicated, however, that the relative costs and benefits for the sending countries may change considerably if the process of economic growth gets under way. Proper emphasis therefore should be put on the process of economic growth and social development, as well as on the long term effects of emigration.

An additional factor to consider in this respect is the comparative advantage in undergraduate education of countries at different stages of economic growth. This advantage used to be the privilege of the developed countries but conditions are changing rapidly.

This situation raises an important question about the benefits of a large scale relocation in the educational and research activities, modelled on a similar relocation which is now taking place in the production of some other highly labour intensive services. Already a number of skilled jobs have been allocated to less developed countries, where acceptable standards of quality combine with cost efficiency (lower wages for teachers, experts and other persons trained in accounting, programming, computing, designing, medical check ups, even undergraduate training in various subjects). Extending further the division of labour among developed and developing countries will bring substantial benefits in output and employment for both.

The upward trend in undergraduate training by national and foreign universities continues and gains momentum in practically all the developing and the countries at the intermediate stage of economic development. It is likely, therefore, that the flow of young graduates from the less to the more developed countries may increase and go very far. Already many less developed countries have a "surplus" of professionals and many more graduate yearly. Greece, for example, has nearly twice as many fully qualified medical doctors as most developed countries, while a very rapid economic growth must be attained and maintained for many years, before the existing number of engineers is fully employed.

An additional point to consider is that for the large number of students and academics found in countries other than their own, individual preferences and political decisions play an important role. The two are interrelated in many ways.

In many countries political decisions prevent the educational and research facilities to be established where the students or the researchers are. University education in them is largely or entirely funded by the state and although study abroad is allowed and degrees from other countries are recognized as equivalent to those granted at home, there is a set number of admissions in almost all faculties. Similar considerations in the past have prevented factories and offices to move to the workers. Yet, during the last decade we have experienced a rapid progress in the free movement of capital and entrepreneurship in material production. It will be useful to realize that the same attitude should be adopted without delay in relation to the location of educational facilities and the employment of qualified persons.

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