

**International Mobility of the Highly Skilled:  
The case between Europe and Latin America**

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## **FOREWORD**

The purpose of the paper is to explore an agenda that can serve the basis for developing future work on the causes and consequences of the increased international mobility of talent between Europe and Latin America. In a global economy that is increasingly integrated in trade, international investment and financial flows it comes as a natural consequence the growing mobility of a highly qualified individuals such as professionals, scientists, international executives, information experts and others. Still the causes and consequences of this important phenomenon need to be further understood.

The international mobility of talent serves critical economic and financial functions: the transfer of new knowledge and updated technologies, catalyze foreign investment and a point of entry for otherwise more closed foreign markets. At the same time, sending countries observe with certain concern that part of their qualified human resource base goes abroad. Research in this area will be devoted to address several of the following questions. Who are the migrants? What is their professional background? What is the direction of the migration: from Latin America to Europe, from Europe to Latin America in both directions? Do they go to the private sector, to universities or research centers? To which sectors: high tech, the financial system, others? What policies can be thought to enhance “brain circulation” so that both sending and receiving countries can benefit from these flows?

Carlo Binetti  
Special Representative in Europe



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## Executive Summary

This paper reviews the main determinants and economic consequences of the international mobility of “talent” (say individuals with particular expertise, talents and often high education levels). Its main focus is on flows pertaining to Latin America and Europe. The paper also outlines the main elements of a possible project in this area.

The international mobility of high skills people is an important vehicle for the transfer of knowledge, skills, foreign languages and other international competences across countries. It can be also an important entry point for foreign investment. This process is bound to generate important economic gains for host and sending countries alike. Host countries benefit by having foreign people with high knowledge and expertise in new areas working in their universities and research centers, in their corporations and banks and in other activities. At the same time, sending countries may benefit if their most qualified nationals abroad are in contact with their home countries through professional networks, from frequent visits and exchange programs and, eventually, from return migration that can bring home their nationals that have acquired abroad new knowledge, that have been exposed to best international practices, that have developed new contacts and that possibly can bring fresh capital. Clearly the contribution of international talent to economic development in areas such as technology transfer, external competitiveness, investment and economic growth are likely to be large.

The challenge is how to transform the international mobility of talent as a win-win process for both Europe and Latin America. To gain further understanding of the international mobility of talent between Latin America and Europe and come up with concrete policy recommendations this paper outlines a project with the following main components:

- Assess the current information and statistical systems for high-skills migration in Latin America and Europe.
- The preparation of an inventory of policies and current regulations on migration of the highly skilled in the two regions.
- The undertaking of case studies of talent migration patterns in (i) the education and science sector, (ii) international corporations and (iii) international banks. This will include European organizations in the above-mentioned sectors that hire foreign talent from Latin America and also Latin American organizations that hire European talent. The case studies will include in-depth interviews to high-skills migrants on the reasons to emigrate, to remain abroad and eventually to return home. The interviews will also cover hiring organizations on: (a) the decision to hire and retain foreign talent and (b) the obstacles and facilitating factors to implement those decisions.
- A set of policy recommendations on international mobility and migration policies for the highly skilled in host countries and in sending countries that can benefit both European and Latin American nations.

## 1. Introduction.

The international mobility of high-skills individuals (HSI) entails the movement, across countries, of people with special talents, skills and specialized knowledge in the scientific, technological, managerial and cultural areas. This people often face more favorable immigration policies than unskilled migrants as programs in industrial economies seek to encourage the immigration –or repatriation- of people with scarce skills, such as information technology experts and others. Globalization and new information technologies have led to an increase in the international mobility of skilled and highly educated people.

Under the heading of ‘high-skills migrants’ we find a variety of people: migrants that pertain to the *education (and science) sector* such as students, scientists, scholars and researchers; migrants that belong to the *business sector*: engineers, information technology experts, managers. Also, migrants in the *banking industry*: experts in risk analysis, portfolio managers, strategists and others. The so-called “knowledge economy” is an important source of demand for foreign talent in Europe and the U.S

The global demand for HIS is being increasingly met for individuals coming from developing countries. This fact triggers an exodus of human capital and high-skill personnel from developing countries. The international mobility of talent is necessary in the global economy, although the benefits of mobility can be shared unequally between sending and receiving countries if the later experience an exit of scarce talent that does not return home (“brain drain”). The issue is, however, more complex than what uni-directional views of international mobility of talent suggest. The brain drain co-exists with “brain circulation” as migrants return home and bring with them useful knowledge, experience, skills and capital, traits that can make a useful contribution to national development. In addition, the existence of scientific Diasporas, in which nationals abroad gather to support the development of science and the transfer of knowledge towards the host country. This enables national human capital living and working abroad to contribute to national development. Contribution to development and residence of the human capital are not necessarily linked.

In spite of the significance of these issues, there is yet little systematic knowledge on the determinants of high-skill migration in Latin America.<sup>1</sup> Besides the statistical base on this is very limited. This is particularly true for flows between Europe and Latin America, the subject of this report.

This report reviews the main literature on international mobility of the high-skilled and talented people as background for the proposed project. The paper highlights conceptual, statistical and policy issues that are relevant for understanding high skill migration between Latin American and European countries, although, as just mentioned, we face limited quantitative information on the nature and magnitude of these flows between the two regions.

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<sup>1</sup> An exception on this is Pellegrino and Martinez (2001).

Still some numbers exist. For example, Latin Americans make up almost 10% of the registered foreigners in Italy and 18% in Spain in the late 1990s. Latin America migration to Europe, at different skills levels, has increased continually since the early eighties. Current instability and weak economic performance in Latin America suggest that this trend may continue for years to come. However, the flow is two-way as foreign investments from European companies in Latin America also entail the movement of managers, professionals, engineers and investors to Latin America in international corporations and international banks. Besides, we have constant flows of exchange of students and researchers between the two regions<sup>2</sup>. This report is organized in nine sections, including this introduction. Section two discusses global trends on international mobility of high skills people and patterns of expenditure on science and technology across regions of the world. Section three reviews main conceptual and measurement issues on international migration of highly skilled people. Section four identifies the main determinants of the international mobility of talent: markets incentives for migration (e.g. income differentials), immigration policies, costs of moving, social networks of relatives, friends and professional peers and non-economic determinants of migration. Section five deals with the economic impact of migration of the highly skilled from the perspective of receiving and sending countries and the global economy. Section six discusses empirical studies of patterns of employment of foreign high-skilled personnel by European corporations and the international mobility of students in OECD countries. Section seven provides a summary of policies and regulations towards high skilled migration in selected European countries. Section eight presents the components of the project on international circulation of high-skills individuals between Europe and Latin America to be undertaken in a period of about two years, highlights the activities of the projects and its expected outputs. Section nine concludes.

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<sup>2</sup> The main recipient of students from South- America is Spain , followed by Italy, Sweden and Switzerland, (OECD, 2002).

## **2. Facts and Trends in the International Mobility of Human Capital and High Skills**

### **2.1 Global demand and supply for skilled individuals**

The demand for skilled individuals has been on the rise in the last decade or so. The main pole of attraction for foreign skilled people is the United States followed by Europe. Some 40 percent of its foreign –born population in the U.S. have tertiary education levels. Since the early 1990s around 900,000 skilled professionals, mainly Information Technology (IT) specialists, have emigrated to the United States coming from India, China, Russia and some OECD countries (U.K., Germany, Canada). These immigrants often come under the H1-B visa program for highly skilled professionals.

The U.S. is also a main recruiter of foreign students in higher education (it accounts for around 30 % of all foreign students in the OECD countries)<sup>3</sup>. Higher education is an important channel for recruiting high skill personnel and 25 percent of H1-B visa holders in 1999 were students previously enrolled in U.S. universities.

The U.S. is not the only net importer of foreign talent in the OECD. Germany, in 2000, launched a “green card” (visa) program to recruit some 20,000 foreign IT specialists. The main recruiters come from Russia, Poland and other Eastern European nations that have an important pool of scientific and technical specialist trained during the socialist period and afterwards. Similar initiatives have been launched, recently, in the U.K., Australia and New Zealand. In the developing world, Singapore has been meeting shortages of IT specialists with immigrants from Malaysia, China and other neighboring countries.

The outflow of human capital is not only led by better opportunities for study and work in the developed countries (pulling factors) but also by economic and political conditions at home (pushing factors). In Latin America, a massive exodus of professionals, scientists and intellectuals took place in the late 1960s and the 1970s. In those years, military regimes in Brazil, Argentina, Uruguay, Chile and other countries targeted universities and other academic centers for ideological cleansing and to abate sources of internal opposition and criticism. This experience suggests a direct correlation between the emigration of scientists and intellectuals and the existence of non- democratic regimes that suppress civil liberties and curtail academic freedom. The restoration of democracy in Latin America in the 1980s and 1990s led to some return of scientists and intellectuals, although this flow would have been probably larger if the economic conditions in universities and research centers -salaries and resources available for research- were better<sup>4</sup>. In turn, among the economic causes for the emigration of talented individuals from Latin America, we find the slow growth period that has affected Latin America in the last five years (see ECLAC, 2002) and the recent country crises in Argentina, Ecuador, Venezuela and Colombia that are prompting the emigration of qualified professionals from these countries.

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<sup>3</sup> See OECD Observer (2002)

<sup>4</sup> See Pellegrino, A. and J. Martinez (2001); also Hansen et.al. (2002) and ECLAC (2002).

## **2.2 Expenditure in Science and Technology: Global and Regional Trends.**

An important determinant of the direction of migration of HIS across countries is the international distribution of resources devoted to science and technology (S&T), particularly between developed economies, on one side, and developing countries (and transition economies) on the other. In fact, according to UNESCO (2001), the developing countries that account for 78 percent of world population (and 39 percent of world GDP) only contribute with 16 percent of global research and development (R&D) expenditure in 1996/97. In contrast, the developed economies with 22 percent of world population account for some 84 percent of global R&D expenditure.

The U.S has the largest share of world R&D expenditure: 36.4 percent in 1996/97, followed by the European Union that accounts for 25.2 percent and Japan 15.2 percent. In the developing world, China accounts for 3.9 percent of world R&D expenditure; the Newly Industrialized Countries of South-East Asia 4.9 percent; India 2.0 percent and Latin America and the Caribbean 3.1 percent (see Solimano, 2002a).

The ratio between the European Union and Latin America regarding R&D expenditure is above 8 to 1. This clearly generates powerful incentives for the emigration of researchers, scientists and students from Latin America to Europe (and other OECD countries).

### 3. Analytical and Statistical Considerations in High Skills Migration

#### 3.1 Definition and Statistical Issues

A basic issue is the definition of what we mean by high skilled and talented individuals. Although there is no consensus on the definition of the highly skilled, an accepted definition is to assume them to have a tertiary educational qualification<sup>5</sup>. The definition is not free of problems either, as skills can also be acquired through experience and what is skilled or unskilled may vary from country to country and depends on the job being performed. For example, a migrant may be skilled in his country of origin but may perform an unskilled job in the country of destination; e.g. a migrant with a degree, say in mechanical engineering in the home country, may be a taxi-driver in the host country<sup>6</sup>. In general, skill levels can be defined either by education or by occupation level. The main international standard classifications are ISCED (International Standard Classification of Education) and ISCO (International Standard Classification of Occupation). The education approach focuses on the supply side of human resources in terms of their skills and qualifications. The occupations approach looks at the demand side for high skills people. The most recent effort to have an agreed conceptual framework has been developed by OECD and Eurostat to measure Human Resources devoted to Science and Technology (HRST), and it is better known as the “Canberra Manual”.

The “Canberra Manual” defines HRST as people that have successfully completed tertiary education, or, in spite of having those qualifications, are employed in a Science and Technology (S&T) occupation, where the above qualifications are normally required. The “Canberra Manual” combines concepts of educational attainment and of occupation. The S&T definition used is broad and includes besides natural sciences, engineering and technology, medical sciences, social sciences and humanities<sup>7</sup>.

For purposes of assessing the international mobility (migration) of HRST it is useful to consider some definitions. According to the United Nations, a *long-term migrant* is a person who moves to a country other than his/her usual residence for a period of at least one-year. In turn, *short-term migrants* are those that move to another country for at least three months, but for less than a year (12-months). People that move internationally, but are “non-migrants” include tourists, short-term business travelers, frontier workers, pilgrims, etc.

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<sup>5</sup> Those studies use also broad categories of ISCO (levels 1, 2 and 3 , see Auriol and Sexton, 2002).

<sup>6</sup> The lack of a generally accepted definition is reflected in the problems regarding the recognition of qualifications across countries. As the market for the highly skilled becomes even more global, the issue of international recognition of professional qualifications will become more pressing.

<sup>7</sup> The definition of the science and technology sector is a complex issue. For example, UNESCO and OECD have developed a broad concept of “science and technology activities” (STA) which includes R&D, “scientific and technical services” (STS), and “scientific and technical education and training” (STET). STS covers activities in museums, libraries, translation and editing of Science and Technology (S&T) literature, surveying and prospecting, testing and quality control, etc. STET refers to S&T education and training, notably tertiary education (see UNESCO, 2001, pp.2).

The main sources of migration statistics are: i) national administrative systems for regulating and monitoring immigration, including working visas and work-permits for foreigners; (ii) population registers and population census; (iii) regular labor force surveys; iv) special surveys<sup>8</sup>.

### **3.2 Types of High Skills Migrants in the Education, Business and Banking Sectors.**

There are several types of human capital and talented individuals that move across countries. *Students* go to developed countries to pursue graduate studies. Some of those students abroad return back home after completing their studies, while others remain in the host country and find jobs in the private sector, universities, research centers, industry, governments and international organizations. The international mobility of students is sometimes classified as part (or at least a precursor) of migration of Human Resources in Science and Technology (HRST) developed by the OECD and Eurostat. In turn, scholars, *researchers and scientists*, are clearly a component of the HRST<sup>9</sup>. In general, jobs in *universities and research centers* in developed countries are vehicles for the international mobility of human resources in the global *education and science sector*.

**Multinational corporations and international banks** are another vehicle for the international transfer of talent. In a recent book the IDB has studied flows of international investment of European companies in Latin America (see Vodusek, 2001). International investment often involves intra-company transfers of employees (managers, engineers and professionals) to overseas locations. Multinational corporations require that *managers and international investors* move, internationally, with the purpose of establishing contacts in foreign markets, make business deals and set-up commercial offices and production units abroad. Also, multinational corporations and firms that have an international scope hire foreign high skill personnel at home. Foreign personnel bring “foreign competences” such as foreign language and knowledge of international milieus, besides special skills in short supply at home.

Investment projects undertaken by *international corporations* usually involve the movement, across countries, of *engineers, technicians, project specialists, consultants and skilled workers* in the phase of project design, project implementation and actual operations. Some of these people may move only temporarily (for a few months), while others move on a more permanent basis (for several years).

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<sup>8</sup> An example of special survey is the SESTAT in the United States (US Scientists and Engineers Statistical Data System, which was created by the US National Science Foundation). Another examples are the surveys carried out by CEREQ in France.

<sup>9</sup> In the academic literature there are various concepts of “brain mobility”. For example “brain exchange” implies a two-way flow of expertise between a sending country and a receiving country. Yet, when the net flow is heavily biased in one direction, the terms “brain gain” or “brain drain” are used. A further term, ‘brain waste’, describes the waste of skills 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. In turn, “brain circulation” refers to the cycle of moving abroad to study, then taking a job abroad, and later returning home ([OECD, 1997](#) and [Johnson and Regets, 1998](#)) (1).

*International banks* also require human resources with specific capacities when opening branches subsidiaries abroad. Banks may have specific risk management policies that form part of their corporate culture and may prefer to bring risk managers from their headquarters. Also portfolio strategists and analysts are key people for them.

#### 4. Determinants of Migration of Human Capital and High Skill Individuals

The factors influencing international migration (such as relative income differentials, immigration policies in the country of destination, state of the business cycle, network effects, others), in principle, are applicable to individuals of different skills. However, some factors (costs of migrating, importance of network effects, cultural barriers, etc.) are probably more relevant for the unskilled migrant than for the emigration of individuals with a high stock of human capital<sup>10</sup>. The decision to emigrate for students, scientists and professionals, has some specific traits that need to be mentioned, besides the standard determinants of migration that we listed before. These people leave their home countries for a variety of reasons: the possibility of acquiring knowledge and first rate education in the best centers of the world (for students), the lure of interacting with peers of international recognition, the aim of pursuing a successful career abroad (for scientists, researchers and professionals)<sup>11</sup>. Individual researchers benefit from interacting with a critical mass of other researchers and scientists working in the same field. Intellectual creation is rarely a purely individual endeavor. Therefore, the productivity of human capital depends, positively, on the availability of human capital. In other words, there are increasing returns in knowledge creation. Matching complementarities and increasing returns are thus an essential part of the story of emigration of human capital.

Let us look in more detail the main determinants of international migration as relevant for high skills migration.

*Expected income differences* between host and source countries are considered to be an important incentive to migrate. Relative income differentials are often approximated by the ratio of per capita income (or real wages) in the source countries relative to the host country<sup>12</sup>.

Historically –oriented studies such as Hatton and Williamson (2000) find that international differentials in real wages (or differentials in per capita income) were a main determinant of the massive flows of net international migration from Europe to the US, Canada, Australia, Argentina, New Zealand in the second half of the 19<sup>th</sup> century and early 20<sup>th</sup> century (the so-called “age of European mass migration”). More recently, these authors study the determinants of world migration using panel data for a sample of 80 countries from 1970 to 2000 (Hatton and Williamson, 2002). Their paper shows that inter-country differentials of per capita income between sending and receiving countries is a highly significant determinant of international migration flows. At the level of individual countries, a study of the determinants of net immigration to and from

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<sup>10</sup> See Solimano (2002) for an extensive discussion of emigration of human capital and its impact on developing countries and the global economy. Earlier analysis of emigration of human capital and brain drain are Johnson (1964), Patinkin (1964) collected in Adams (1964). More recent treatments and empirical analysis of emigration issues are Haque and Kim (1994), Carrington and Detragiache (1998), Sutcliffe (1998), UNESCO (2001), OECD (2002).

<sup>11</sup> Another factor that tends to encourage the emigration of students is the availability of financial support for foreign students to pursue Masters degrees, Ph.D or Post-Doctoral studies abroad.

<sup>12</sup> Expected income differentials have to be adjusted by the costs of migration (pecuniary and non-pecuniary).

Argentina in the 20<sup>th</sup> century (Solimano, 2002b), finds that real per capita income differentials between Argentina and source countries are a main determinant of net migration flows to (and from) that country in the 20<sup>th</sup> century. It is worth noting though that these three studies consider all migrants and not only high-skills migrants.

***Costs of Migration and Social Networks*** are also important factors in driving migration flows. Migration entails costs of traveling, job search and others. Besides, there is a psychological stress associated with moving to live in another country often with different language and culture. The existence of networks of relatives, friends and professional peers, influence the decision to move as well as the choice of the destination country as the presence of existing migrant networks in the host country help migrants in the air adaptation to the host country<sup>13</sup>.

There are also ***political determinants of migration***. No-democratic regimes in host country that curtail individual rights, freedom of speech, academic freedoms, etc. lead to greater flows of emigrations of academics, teachers and professionals than democratic regimes. This was indeed the case for the Latin American dictatorships of the 1960s and 1970s and the authoritarian regimes in the former soviet block during communism (see Solimano, 2002a).

***Shortage of skill labor***. In industrialized countries, the shortage of certain skilled professionals such as information technology experts and computer science specialists, nurses, medical doctors, etc. is an important factor behind the increase in demand for HSI in the world economy. The information revolution apparently has led to technical change that saves unskilled –labor, substituting it for skilled workers. Immigration incentive policies such as H-1 professional visas in the U.S and special visas for information technology experts in Germany and other countries are also a factor that have encouraged immigration of high skill people to OECD countries in recent years.

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<sup>13</sup> Research by Stark, 1991 and Daveri and Faini, 1999 suggests that international migration acts as a family strategy to diversify sources of income, minimize risks to the household and overcome access barriers to credit markets.

## 5. Impact of high skilled migrants in both sending and receiving countries

The economic literature evaluating the developmental and global effects of the emigration of human capital has evolved through time. Early analysis based on neoclassical growth models with human capital as a factor of production, assumed perfect competition, perfect information, and full wage flexibility. The conclusion of those analyses was that for small amounts of highly skilled, emigration would leave the economic welfare of the remaining population unaffected (Johnson 1967; Grubel and Scott 1966). In fact, the highly skilled emigrant removed only their personal marginal product, then the remaining population would be unaffected by a reduction in the skilled labour force. In a world without barriers to the movement of people across nations, individuals should be expected to migrate from places where their productivity (and income) is lower, to places where their productivity is higher, regardless of national borders.<sup>14</sup>

Then, human capital will go from countries with a lower net return to countries with a higher net return (discounted the costs of moving). Unless there are some significant negative externalities, “world income” should be higher with more mobile human capital, as at the margin the marginal productivity of human capital will tend to be equalized around the world. As result, there are *global efficiency gains* from increased international mobility of skilled labor and human capital. This analysis, however, does not consider the *international distributional impact* of the costs and benefits of such migration flows between sending and receiving nations.

The modifications of the original assumptions of neoclassical models suggested that the emigration of HSIs can generate economic losses for the country sending the emigrants. There can be a loss of welfare for the remaining population because of externalities due to a loss of scarce skills. As the high skills emigrants are individuals with a large endowment of knowledge, they generate positive externalities that may be sector-specific (i.e. the output of academics depend on the availability of a mass of researchers). In other words, knowledge generation is an activity with increasing returns (see Solimano, 2002a). The externality argument rests on the assumption that the social marginal product of a highly skilled emigrant is greater than his private marginal product. Some of these conclusions have received analytical support from “new growth” or “endogenous growth” theories that highlight the cumulative value of human capital in economic development. New growth theories stress that the average level of human capital in a society has positive effects on productivity of an individual worker above and beyond their own personal endowment of human capital (the point just made in the previous paragraph). The greater a country average level of education, the greater its economic growth (Lee and Barro 1993; Barro and Sala-I-Martin 1995)<sup>15</sup>. Thus, receiving countries

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<sup>14</sup> This is a simplification since individual attachments to family, language, traditions and culture in the home country also matter in the decision to emigrate.

<sup>15</sup> More skilled workers permit countries to lower their production costs and be more competitive. Indeed, one study of 111 countries 1960 to 1990 found that a one-year increase in the average education of a nation workforce increases the output per worker by between 5 and 15 percent (see ILO 1998; Topel 1998)

in particular benefit from increased knowledge gained from highly skilled immigrants. In the process, permanent emigration of the highly skilled may amplify international disparities in qualified human resources capabilities between source and receiving countries.

There can be other losses as well for the sending countries from high-skill migration: (i) emigration could entail a loss of fiscal revenues; (ii) source country governments lose with emigration their initial educational investments in the highly skilled emigrant (see Bhagwati and Hamada 1973:103); (iii) the science sector can weaken with the departure of qualified professionals and scientists; (iv) the middle class, often a stabilizer segment in developing countries, can weaken with massive emigration of HSIs.

### **5.1 Brain Drain, Brain Circulation and Scientific Diasporas**

Not all departure of qualified human resources has to be considered as a *brain drain* associated with permanent emigration of scientists, professionals, technology experts, and others. In modern times, there is a pattern of *brain circulation*. The human capital that has emigrated may return home after a few years (or decades) bringing along accumulated knowledge, skills, contacts, access to international best practices and possible financial capital, with the ensuing contribution to national development. This return migration certainly benefits the home country. In addition, during the period the emigrant stays abroad, he may transfer part of their knowledge and experience to the home country through periodic visits and by participation in “knowledge networks” or *scientific diasporas*<sup>16</sup> set-up abroad (Solimano, 2002). The Scientific Diasporas have created knowledge networks of nationals belonging to a certain scientific field that work or study abroad. A main purpose of these networks is to connect professionals and scientists scattered around the globe, and interested in maintaining contact among them. In addition, they are also interested in helping to promote the scientific and economic development of their home countries. These networks may have a link and be supported by national governments or may be fully independent. Examples of these networks are the Chinese Scholars Abroad (CHISA), The Colombian Network of Engineers Abroad (Red Caldas), The Global Korean Network, The Sillycon Valley Indian Professionals Association (SIPA), and several others.<sup>17</sup>

In addition, scientific Diasporas enable, to some extent, the de-linking of the contribution of scientists from their physical place of residence. This can help the transfer of knowledge to developing countries.

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<sup>16</sup> See Meyer and Brown (1999)

<sup>17</sup> Other examples are the Polish Scientists Abroad Network, the Reverse Brain Drain Project of Thailand, the Tunisian Scientific Consortium, the South African Network of Skills Abroad (SANSA), The Program of Venezuelan Talent Abroad and several others.

**TABLE 1**  
**1. Economic effects of high-skill international migration**

<p><b>SENDING COUNTRIES: POSSIBLE POSITIVE EFFECTS</b></p> <p><b>Development effects</b></p> <ul style="list-style-type: none"> <li>* Increased knowledge flows and collaboration, higher international mobility leads to increased ties with foreign research institutions</li> <li>* Export opportunities for technology</li> <li>* Remittances and venture capital from diasporas networks</li> <li>* Successful overseas entrepreneurs bring valuable management experience, capital and increased access to global networks</li> </ul> <p><b>Human capital effects</b></p> <ul style="list-style-type: none"> <li>* Increased incentive for natives to seek higher skills</li> <li>* Possibility of exporting skills reduces risk/raises expected return from investment in education at individual level.</li> </ul>	<p><b>RECEIVING COUNTRIES: POSSIBLE POSITIVE EFFECTS</b></p> <p><b>Development and Technology Effects</b></p> <ul style="list-style-type: none"> <li>* Increased R&amp;D due to enhanced availability of individuals with a higher stock of knowledge</li> <li>* Inflow of entrepreneurship</li> <li>* Knowledge flows and collaboration with sending countries</li> <li>* Immigrants can foster diversity and creativity</li> <li>* Creation of export opportunities for technology</li> </ul> <p><b>Higher education systems and fiscal effects</b></p> <ul style="list-style-type: none"> <li>* Increased enrolment in graduate programmes <ul style="list-style-type: none"> <li>• Renewal of faculty and researchers</li> <li>• Increased tax revenues levied on human capital</li> </ul> </li> </ul> <p><b>Labour Market</b></p> <ul style="list-style-type: none"> <li>* Easing of labour shortages of high skill workers. Wage moderation in high growth sectors with labour shortages</li> <li>* Immigrant entrepreneurs foster job creation</li> <li>* Immigrants can act as magnets for accessing other immigrant labour (network hiring effects)</li> </ul>
<p><b>SENDING COUNTRIES: POSSIBLE NEGATIVE EFFECTS</b></p> <p><b>Human capital and fiscal effects</b></p> <ul style="list-style-type: none"> <li>* "Brain drain", loss of productive potential due to (at least temporary) absence of higher skilled workers and human capital <ul style="list-style-type: none"> <li>• Lower returns from public investment in tertiary education (waste of national public resources)</li> <li>• Loss of fiscal revenues from taxation of human capital</li> </ul> </li> </ul>	<p><b>RECEIVING COUNTRIES: POSSIBLE NEGATIVE EFFECTS</b></p> <p><b>Higher education systems</b></p> <ul style="list-style-type: none"> <li>* Decreased incentive of natives to seek higher skills in certain fields. Crowding-out of native students for foreign students from best schools</li> </ul> <p><b>Science and technology</b></p> <ul style="list-style-type: none"> <li>* Technology transfers to foreign competitors and possible "hostile" countries in situations of potential conflict.</li> </ul>
<p><b>POSSIBLE GLOBAL EFFECTS</b></p> <ul style="list-style-type: none"> <li>* Increased flows of knowledge across countries, formation of international research/technology clusters (Silicon Valley, CERN).</li> <li>* Increased efficiency in global labor markets for high skills workers, researchers, information technology experts.</li> <li>* Increased concentration of global expenditure in science and technology in OECD countries.</li> <li>* International global competition for scarce human capital raises, incentives for individual human capital formation</li> <li>Increase in global real income due to human capital reallocation from lower return countries to higher return countries.</li> <li>* Increases in global inequality</li> </ul>	

Source: OECD, expanded on the basis of Regets, 2000.

## 6. Empirical Evidence on High Skill International Mobility.

In this section we will review empirical studies and other evidence on two specific forms of international mobility of talent: the demand for foreign high skills employees by European corporations with international scope and the international mobility of students.

### 6.1 A Case Study of European Firms that Recruit Internationally.

A recent study centered in European firms that recruit internationally, provides interesting findings on the skills characteristics of foreign high skills employees, as well as the motives for hiring internationally. The study is based on the *IZA International Employer Survey* undertaken during year 2000<sup>18</sup> (Winkelman, 2001). The survey contains observations for 850 firms, 340 of them based in Germany, whereas 170 were from France, the United Kingdom, and the Netherlands, respectively. The *IZA International Employer Survey 2000*, is probably the first data set of this kind.<sup>19</sup>

It is worth noting that the firms of the survey, in general, conduct international operation (that have subsidiaries in more than one country) and actively invest in Research and Development. This is a sample of predominantly internationally- oriented, research-intensive firms.

Table 2 shows that highly qualified employees (national and foreign) represent, on average, near 30 percent of the labor force employed by the firms of the four countries. In turn, on average, near 39 percent corresponds to Foreign Highly Qualified Employees (FHQE, column 2 of table 2). Of these, the proportion FHQE represents in HQE is around 11 percent (firms in the Netherlands are shown to have the highest percent of foreign highly qualified personnel and Germany the lowest ). It is important to notice that the category “highly qualified employee” includes all employees with an university degree (regardless of the field of study).

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<sup>18</sup> This survey was financed jointly by the German Ministry of Education and Research and IZA.

<sup>19</sup> The sample is confined to five selected industries and to firms with at least 100 employees. All firms without highly qualified employees were excluded, whereas the employment of foreign highly qualified workers was no precondition for inclusion in the sample. The five selected industries (with target/actual percentages in brackets) are:

- ◆ Chemical Industry (20% / 20%)
- ◆ Manufacturing (30% / 31%)
- ◆ Financial Services (20% / 22%)
- ◆ Information Technology (20% / 16%)
- ◆ Research and Development (10% / 9%)

**TABLE 2**  
**The relative importance of HQE and FHQE in selected European countries**  
**(%)**

Country	Average Proportion of HQE among all employees	Share of all firms employing FHQE	Average proportion of FHQE in firms with FHQE
Germany	28.13	38.91	9.13
France	39.38	34.39	10.86
U.K.	31.36	49.65	10.91
Netherlands	19.66	33.33	16.73
Total	29.00	38.80	11.08

Source: Winkelman, 2002)

Winkelmann (2002) reports that most foreign highly qualified employees (FHQE) are working in areas such as Research and Development and Information Technology. Regarding the fields of study of FHQE coming from non-EU countries, computer science stands as the main field (31.6 percent) followed by Engineering (23.7 %). In contrast, for FHQE coming from other EU countries, the main field of study is engineering, followed by mathematics and natural sciences (see table 3).

**TABLE 3**  
**Most frequent field of FHQE classified by region of origin**  
**(in percent)**

	Only or mostly FHQE from	
	<i>E-U countries</i>	<i>Non E-U countries</i>
Engineering	41.5	23.68
Mathematics and Natural Science	18.4	13.16
Computer Science	13.8	31.58
Business Studies	16.9	15.79
Medicine	1.54	7.89
Others	7.69	7.89
Total	100	100

Source: Winkelmann, 2002

The IZA survey asked (mainly to German firms) about subjective reasons for hiring FHQE. The survey finds that knowledge of foreign markets and knowledge of foreign languages (e.g. English for German firms), say “international competences”, were considered as main reasons for hiring internationally. In turn, the respondents of the survey viewed foreign employees with complementary—rather than substitute—skills to the domestic labor force.

The existence of difficulties in obtaining work permits was identified as a main constraint that domestic firms face for hiring FHQE (61% of firms without FHQE and 65% of firms with FHQE, see table 4 ), followed by language problems, as well as socio - cultural differences. Problems related to potential discrimination (lack of acceptance from superiors, subordinates or customers) were not considered as too important in the decision of hiring foreign employees.

Among the firms that do not employ FHQE and that identify difficulties in obtaining a work permit, 89% state that they would recruit internationally if the regulations were simplified. Likewise, among the firms that employ FHQE and identify difficulties in obtaining a work permit, 71% state that they would recruit even more international applicants if the regulations were simplified. These findings point –out that the costs (in a broad sense) of obtaining visa is a major constraint for hiring foreign personnel.

**TABLE 4**  
**Germany: Reasons for non-recruiting and for recruiting FHQE**  
**(%)**

<b>Reasons for not recruiting</b>	<b>Firms without FHQE</b>			<b>Firms with FHQE</b>
Language problems	12.9			46.8
Acceptance by superiors	1.2			8.5
Acceptance by subordinates	2.4			14.8
Acceptance by customers	4.9			14.8
Difficulties in judging foreign professional careers	3.7			24.4
Lack of knowledge of foreign education systems	4.9			27.6
High recruiting costs	1.8			19.1
Difficulties in obtaining work permits	60.9			65.2
No applicants	54.3			n.a.
No demand, jobs are filled with German applicants	19.1			n.a.
<b>Reasons for recruiting</b>	<b>Strongly Agree</b>	<b>Somewhat agree</b>	<b>Disagree</b>	
Best applicants	8.87	39.52	51.61	
Lack of good German applicants	11.11	43.65	45.24	
Knowledge of foreign markets	34.92	28.57	36.51	
Knowledge of foreign languages	46.46	25.20	28.35	
Speak English well	33.07	33.07	33.86	
The type of knowledge required for these jobs is not produced by the German education system	4.72	23.62	71.65	
Their skills better fit our work tasks	14.96	36.22	48.82	
They have lower wage demands	0.79	9.45	89.76	
T or post-secondary non tertiary education; third level refers to tertiary education they work harder	1.60	12.00	86.40	
Sub-sample: All German firms that employ FHQE				
Own calculations, Source: IZA International Employer Survey 2000				

Source: Winkelmann, 2002.

## 6.2 International Migration of Students

International mobility of students is considered a significant part of the migration of people associated with the science and technology sector. For this reason we include this section as the second case study that help us to understand migratory movements of the highly skilled.

Students are precursor of the mobility of highly qualified personnel that we studied in the previous section. After graduation, students have several possibilities: (i) stay in the host country and enter the local labor market, (ii) return home or (iii) go to a third country. In the host country, students that have earned a degree in local universities are good candidates to be employed by domestic companies (including, of course, multinationals). They can go also to the academic sector: universities, research centers, think-tanks. Other possibilities are self-employment and/or employment for government agencies or international organizations. There are some other peculiarities associated with the mobility of students across countries that need to be mentioned. Flows of foreign students tend to follow the same channels as other migrants from their country of origin, and can be considered an integral part of migration systems (Kritz and Caces 1992). Among the immigrant population, the most qualified are generally more easily absorbed in their adoptive labor market (OECD, 2000). Their absorption in the local labor market is facilitated by their mastery of foreign languages associated with a higher level of education. As we saw in the previous section, corporations attach a high value to these international skills. On the other hand, potential migrants also have advantages due to their familiarity with the host country culture and traditions. In addition, the possession of a degree from the host country gives highly-qualified immigrants an additional advantage over migrants that have not studied in the host country or over nationals with lower educational levels.

For all these reasons, the migration of students can be considered to be a precursor of subsequent migration of high skill workers. The transition from student to (working) resident is filtered by current regulations on the matter. Table 5 summarizes those regulations for a group of OECD countries<sup>20</sup>.

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<sup>20</sup> A study on 4200 temporary immigrants holding a H-1B visa shows that 23% previously held a student visa (Tremblay 2002).

**TABLE 5**  
**Current regulations in OECD countries regarding possibilities for student visa holders to change residence status, 2001**

<b>COUNTRY</b>	<b>Possibility to change residence status</b>
Australia	Students who have gained Australian qualifications are exempt from the skilled work experience if they apply for a skilled visa within six months of completing their diploma. If eligible, students can apply for most permanent visas, e.g. spouse visas and skills under points-tested skilled entry.
Austria	Not possible in general, but students who graduate in IT can change their status and access the labor market. Free labor market access for students during their stay on the basis of an inter-university student exchange program or educational program of the EU. Seasonal work permits in tourism or the agricultural sector possible for all foreigners including foreign students and graduates.
Canada	Students can work (with authorization) for one year after completion of postgraduate degree (no validation required).
Finland	Stay of a foreign student is seen in Finland as temporary, but a student can apply for a permit on new grounds through a Finnish representation abroad. A student does not need a work permit for part-time work (maximum 20 hours/week) during the academic year from his/her institution of education or during holiday seasons of the institution of education.
France	Yes, in general, but students who graduate in IT in France (engineers) can change status with a simple demand.
Germany	Yes, after they successfully pass their examination (new legislation).
Ireland	Employers may seek to have work permits issued in their field of study for students and students themselves, in certain skills areas, may apply for a work authorization/working visa when they have an offer of employment.
Japan	Yes. Students may apply for residence.
Korea	Students who have gained a master's degree or higher in the field of IT can apply for a work permit. Those who have obtained a work permit can change their visa status from student to employment status for a maximum of three years.
Mexico	Yes, but there is no special procedure.
New Zealand	Yes, students may apply for residence. The General Skills Category (GSC) awards additional points of qualifications gained in New Zealand. In addition, students with a New Zealand qualification are not required to have any work experience to qualify under the GSC. Students may also apply to remain in New Zealand as temporary visitors or under the work permit policy.
Norway	Yes, for students who have not received financial benefits from Norwegian authorities. No, for students who have received such benefits.
Czech Republic	Yes, but there is no special procedure.
Switzerland	Yes, but there is no special procedure (new legislation).
United Kingdom	In-country changes to work permit status for students completing degrees in the United Kingdom are allowed in certain circumstances. As a general rule, in-country changes to work permit status are not allowed, except for trainees, who can apply for a Training and Work Experience Scheme visa. Settling procedures are more flexible for Commonwealth, EEA and EU residents.
United States	Yes, but there is no special procedure.

Source: OECD, on the basis of information provided by SOPEMI correspondents.

Regarding the origin of foreign students in Europe and OECD we find some interesting patterns that reflect the degree of internationalization of the student circuit. Foreign students from other OECD countries represent 39 percent of the total stock of foreign students in the U.S., 60 percent in the U.K, 73 percent in Switzerland, 66 percent in Spain and 27 percent in France. Students coming from South America represent near 15 percent of the stock of foreign students in Spain, followed by Italy (3.3 percent), Sweden and Switzerland (each with 3 percent)<sup>21</sup>.

Another issue is the distribution of foreign students by field of study at tertiary level. The data available for five OECD countries (Australia, Austria, Denmark, Germany and Switzerland) shows that 32 percent of foreign students are enrolled in social sciences, business and law, followed by arts and humanities (19.4 percent) and engineering, manufacturing and construction (14.1 percent).

**TABLE 6**  
**Foreign students by field of study (all tertiary levels) in the main OECD host countries, 1998**  
(%)

	Australia	Austria	Denmark	Germany	Switzerland	Simple mean five countries
Agriculture	1.0	1.8	2.2	1.5	1.1	1.5
Engineering, manufacturing and construction	12.7	15.6	7.6	18.5	16.0	14.1
Health and welfare	9.9	8.9	21.6	7.1	6.6	10.8
Arts and humanities	9.0	27.9	20.5	23.2	16.5	19.4
Sciences	12.7	12.1	6.6	11.7	14.4	11.5
Services	2.8	0.4	0.6	1.6	8.9	2.8
Social sciences, business and law	46.5	33.2	25.8	24.9	31.1	32.3
Total	100.0	100.0	100.0	100.0	100.0	100.0

Part of the data by nationality are not specified by field of study, so the sum of percentages does not equal 100%

Source: OECD Education data base

<sup>21</sup> The United States receive 5.3 percent of total foreign students from south America and Canada 3.1 percent.

## 7. Immigration Policies in Receiving OECD Countries<sup>22</sup>

Market incentives for migration, both skilled and unskilled, are mediated by actual immigration policies that encourage (or discourage) migration flows in receiving countries, in this case in Europe. For the European Union, their migration policies are well-known and comprises common, supra-national policies that can be described as a dual system in which any citizen of a EU member country enjoys full and free mobility to reside and work in any other country of the EU. At the same time, there are several restrictions for residence and working permits for non-EU citizens that want to work in the EU countries. A number of OECD countries have already adapted their own legislation in order to facilitate the entry of skilled foreign workers as a partial response to skilled labor shortages. For instance, the Japanese authorities have extended the maximum visa duration for some categories of skilled workers from one to three years. In the United States, limits to temporary immigration have recently been raised and H1-B visas are issued for foreigners such as information technology experts in short supply and other professionals. In the same vein, the United Kingdom and France introduced a fast-track work permit system in order to speed up the recruitment of foreign workers by companies experiencing severe skill shortages. The German government has launched temporary immigration visas (green cards) in order to recruit IT specialists, Ireland is encouraging return migration of high-skills nationals living abroad. In turn, Nordic countries have reduced the tax burden on income of skilled of foreign workers and professionals to prevent emigration<sup>23</sup>.

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<sup>22</sup> This section is based on the study *Migration Policies Towards Highly Skilled Foreign Workers* by Gail Mc Laughland, and John Salt (2002).

<sup>23</sup> See table A.1 in the annex for a detailed summary of this policies and regulations

## **8. Policies Towards High Skill Emigration and Return in Latin America.**

Unfortunately, there is an almost complete absence of periodic publications with comparable information on high skill emigration and immigration policies and regulations for Latin American countries an issue to be address in the proposed project. An analysis of policies towards the emigration of human capital and high-skilled people from Latin America has to consider that domestic conditions (pay levels, possibilities of professional development, etc.) are also a crucial determinant in the decision to exit. Old practices of enacting legal restrictions to emigration and “departure taxes’ are now seen as non-feasible, archaic and at odds with principles of individual freedom. Some Latin American countries (i.e Chile) require that graduate students going abroad funded by state agencies to return a few years to the home country to work after completing their studies abroad. Another dimension is the development of policies and incentives for the return of highly qualified migrants including international students. This requires a combination of better economic conditions to be offered at home for the qualified human resources that are planning to return home (e.g. better salaries and the availability of benefits such as medical insurance, pensions, relocation expenses) along with facilities to work and social reinsertion of the migrant. Many times, the perception by the migrant that he or she “ is wanted’ in the home country and that his capacities, abilities and reputation gained abroad are valued and respected at home can be very important in the decision to return home.

## **9. A project proposal**

This section presents a proposal for a project on high skilled migration between European and Latin American countries. The project will have the participation of experts from Latin American and European experts in the subject and it is envisaged to last two years. The project considers four main components led by the analysis of this report. Those components are oriented to assess the availability and quality of existing data-bases on migration of high-skills and human capital as well to understand better the determinants of the international mobility of high-skills individuals between Europe and Latin America in various sectors of the economy. The project will also provide recommendations on migration of the highly skilled to policy-makers, international organizations and civil society engaged in migration issues.

### **9.1 The Four Project Components Statistical Systems for High-Skills Migration**

This project component will focus on the statistical system and databases available to record migration flows of high-skills individuals between Latin American and European countries. Additionally, this component will evaluate their methodological basis, particularly in Latin America, where there is a critical lack of information (data and facts) on high-skills migration flows. In addition, this lack of information is hampering adequate policy formulation in this important area by national governments and supported by international organizations. Currently official migration data comes from various sources: data collected by agencies in charge of granting visas and work permits to foreigners, population census, household surveys. International organizations such as the OECD, UNESCO, CELADE, ILO and ECLAC compile and manage information, at different degrees, on high-skills migration. This component will start on a pilot basis with one or two countries in Latin America (i.e. Argentina and Chile), using as benchmarks the efforts undertaken, primarily, at the OECD and UNESCO for Europe and the OECD, with the purpose of developing an information system in this area. A leading objective of this component of the project is to make an assessment of the consistency, reliability and degree of comparability of available data on migratory flows, which currently is being handled by various agencies at national levels in the Latin American countries. Certain degree of centralization of the data, according to internationally accepted methodological standards, may be desirable if more reliable and comparable statistics in this regard are required.

#### **Activities**

- 9.1.1 Making a list of all agencies dealing with migratory statistical data and the information compiled by these agencies.
- 9.1.2 Gathering and systematization of relevant statistical data and related studies (comparable and reliable basis)

- 9.1.3 Formulation of a methodology to gather high skilled migratory data following international approved standards

## **9.2 Inventory of policies and regulations on high - skill migration in Latin America**

The insufficiency of statistical data on high-skills migration flows in Latin American countries is also reflected in the lack of accessible information (and perhaps definition) of policies and regulations on these migratory flows. In this connection, we propose to build an inventory of policies and regulations on high skill migration for selected Latin American countries. The countries to be studied would be Argentina and Chile.

This should include both immigration and emigration policies, since the Latin American region is both an exporter and importer of qualified human resources. The activities of this component of the project will focus on the already existing migration systems. They will include information about working permit regulations, criteria considered to grant visas to foreign employees; the tax codes for foreigners, the tax codes for nationals working abroad. Additionally, strategies to overcome shortages of HSE; role of recruiting agencies, policies regarding the financing of students that emigrate to obtain degrees abroad, repatriation requirements by governments granting scholarships to national students and others.

### **Activities**

- 9.2.1 Revision and systematization of work permit regulations
- 9.2.2 Listing and analysis of criteria for granting visas for foreign employees (skills and/ or other requirements)
- 9.2.3 Review and analysis of tax legislation regarding both foreigners and nationals working abroad
- 9.2.4 Review of strategies, programs or actions to overcome shortages of HSI (by government, by private corporations, universities, etc)
- 9.2.5 Study of the role of recruiting agencies and companies (i.e , “head-hunters”).
- 9.2.6 Review of policies regarding the financing of students that emigrate to obtain degrees abroad
- 9.2.7 Listing of repatriation requirements by governments granting scholarships to national students and others.
- 9.2.8 Final report, including the above activities and a section with conclusions and recommendations.

### **9.3 Three Case Studies**

To understand better the determinants of the migratory process of the high skilled, we propose to undertake specific surveys focused on three important categories of migrants that may have different responses to migratory opportunities. The three case studies will center in the following sectors:

- Education and Science (students, scholars, researchers)
- Business (international corporations)
- International Banks.

#### **9.3.1 Migration in the Education and Science Sector**

Here, the analysis will focus on the international mobility of students and international migration of scholars, researchers and scientists between Latin America and Europe (two-way flows between universities and research centers in the two regions).

##### **Activities**

- 9.3.1.1 Gathering and systematization of available statistical data on student and scholars migration (time of stay, individual characteristics, field of study, etc.) from Latin America to Europe and vice-versa;
- 9.3.1.2 Identification of main countries of origin and destination for students abroad and for scholars and scientists in the two regions.
- 9.3.1.3 Determination of patterns of financing of students (government scholarships, university grants in the host country, family sources);
- 9.3.1.4 Undertaking of surveys of students' opinions on reasons for staying in the host country after completion of studies and actions and conditions to attract them to return to the home country;
- 9.3.1.5 Surveys for scholars and scientists;
- 9.3.1.6 Identification of policies towards student and scholars migration: mutual certification such as reciprocity of professional certificates, facilities for entrance and return between countries, part time work (6 months in one country and 6 months in the other).
- 9.3.1.7 Undertaking of in depth interviews to key actors (government officials, prestigious scholars, etc).
- 9.3.1.8 Workshops with key actors: students, scholars and government officials.

A combination of survey-work and other empirical research work will be required to carry -out this case study.

### **9.3.2 International Migration related to the Business and Banking Sectors.**

As we have seen in the paper, firms increasingly rely on the hiring of foreign high skill employees. International movements in the business sector include engineers, technicians, project experts and consultants, high-skills workers, international investors and entrepreneurs. Banks have demand for some specific expertise such as risk analysts, portfolio managers and strategists, general comptrollers.

#### **Activities**

- 9.3.2.1 Gathering quantitative and qualitative information on migratory movements of high skill employees of corporations between selected Latin American and European countries;
- 9.3.2.2 To investigate current and future requirements of foreign high skill employees by corporations;
- 9.3.2.3 Formulate a survey to firms (employers) to find out about reasons for recruiting and/ or for no recruiting foreign high skilled workers, number of foreign high skill workers employed, characteristics of these workers compared with domestic workers (age, sex, field of study, international competences, sector of economic activity, productivity, etc.);
- 9.3.2.4 Design a survey to find out migrant employees opinion on the reasons to migrate, the incentives and obstacles they face;
- 9.3.2.5 Identify policy proposals (reciprocity of professional certificates, easy entrance and return between countries, part time work, reciprocal visa-waivers, etc.) that can facilitate migration.

### **9.4 Policy Recommendations**

The project will come up with policy recommendations in the following areas:

- Statistical systems and databases.
- Migration policies for high –skills migrants
- International certification of skills
- Policies to encourage voluntary repatriation of scientists and support of international knowledge networks (scientific diasporas).

## **10. Activities and outputs of the project**

The main activities and products of the proposed projects are summarized in this section.

### **Activities**

- 10.1** Identification of consultants and national experts.
- 10.2** Initial Meeting with Experts to launch the project and discuss
- 10.3** methodology and work. (October/November 2003 in Paris, IDB Office)
- 10.4** Interim Meeting to discuss drafts and first versions of the studies.
- 10.5** Final International Conference to an open audience (Presentation of final reports)

### **Outputs**

#### **Output I**

##### **Report on the availability and quality of statistics on high skill migration in Latin America and Europe**

This report will port on the results, for selected countries primarily on Latin America, of the analysis on the availability and quality of the data. The report will include a set of recommendations to improve the official recollection of this information.

#### **Output II**

##### **Report of policies and regulations on high skill migration in Latin America**

This report should include a listing of policies and regulations on HSI migration, considering separately different kinds of migrants: students, scholars, professionals, executives of international corporations, others.

#### **Output III**

##### **Three-Case Studies.**

Case Study I: Education and Science sector

Case Study II: Business sector (international corporations).

Case Study III: International Banks.

Country studies will be in charge of national experts from the selected Latin American and European countries.

## **Output IV**

### **A set of surveys-interviews (including an analytical summary of results)**

- Interviews to emigrants in the following categories:
  - Students
  - Scholars and scientists
  - Professionals and technical experts
  - High level executives
- Interviews to employers of high-skill migrants in:
  - International Corporations
  - Universities and research centers.
  - International Banks

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## ANNEX II

### Table A. 1

<b>CRITERIA FOR RECRUITMENT AND RESIDENCE OF SKILLED FOREIGN WORKERS IN SOME OECD COUNTRIES</b>					
Main categories of workers by country	General admission conditions and specific admissions	Availability of domestic workers as grounds for refusal	Quotas	Authorised length of stay and possibility of renewal	Possibility of family reunification
<b>AUSTRALIA</b>					
<i>1. Permanent immigration programme</i>					
1.1 Skilled-independent 1.2 Skilled-Australian sponsored	<p>*Generally post secondary but in a small number of cases substantial work experience may be acceptable.</p> <p>*Minimum requirements on skill, age and English language ability.</p> <p>*Points test. Applicants are awarded points according to age, skill, English language ability and experience. Additional points awarded for applicants whose skills are in short supply in Australia, e.g. information technology, accountancy and nursing for spouse skills and where applicable for family links</p>	Sponsoring employers must demonstrate that job vacancies cannot be filled from the local labor market.	No. Planning levels adjusted subjects to demand and economic and labor market needs.	Permanent.	Spouses, de facto partners and dependent children receive a visa at the same time as the skilled applicant as part of the family unit. Parents of the skilled applicant may be separately sponsored for permanent entry within capped numbers.

	and language skills other than English. *Sponsorship (only for the category "skilled Australian sponsored") by a relative who is an Australian citizen or permanent resident. <sup>1</sup>				
<i>2. Temporary immigration programmes (Economic Stream)<sup>2</sup></i>					
Business entry visas and the other temporary visas for skilled workers	Nominated by the employer.	Yes, for non-key activities (except for skills that are in shortage). This is not required for key activities.	No.	Business entry visa: up to 4 years. Other temporary visas for skilled workers: up to 2 years. No restrictions on renewal.	Members of the family unit may be granted visas to join temporary residence visa holders in Australia. The application can be separate or combined with the main applicant.
Main categories of workers by country	General admission conditions and specific admissions	Availability of domestic workers as grounds for refusal	Quotas	Authorised length of stay and possibility of renewal	Possibility of family reunification
<b>FRANCE</b>					

General requirement	*The firm must exist for more than 3 years and have more than FRF 3 million of capital. *A monthly wage equal or above FRF 25.000	No.	No.	*For long-term contract, one year (renewable). *For short-term contract, 9 mos. (renewable). Total of 5 years.	Yes, application may be made for a one-year visa and a further application for family reunification.
Simplified procedure for IT Specialists	A degree in IT or equivalent professional experience and an annual salary above FRF 180.000.	No.	No.		
<b>GERMANY</b>					
Special programme for IT workers ("Green card" programme).	University or polytechnic level of education or an annual salary higher than DEM 100.000	Yes.	20.000 (evaluation of the programme after 10.000).	5 years maximum.	Yes.
<b>SUIZA</b>					
Skilled workers (outside EEE <sup>3</sup> )	Skills do not refer to a minimum educational level but to skills that are needed and evaluated locally.	Yes.	Yes, locally.	Depends on the sector of activity.	No.
<b>UNITED KINGDOM</b>					
Simplified procedure for some highly skilled workers (Shortage occupation list), including some IT or communication specialists.	UK degree level qualification or higher national diploma plus one year of experience or at least 3 years of work experience in the field for which the permit is delivered	Yes, not applicable in case of renewal. <sup>4</sup>	No.	The maximum period has been extended to 5 years. After 4 years, the worker has the right to settle (indefinite	Yes.

				leave to remain) if they are still in employment.	
Pilot project allowing people of outstanding ability to apply for entry and then seek employment.					
Main categories of workers by country	General admission conditions and specific admissions	Availability of domestic workers as grounds for refusal	Quotas	Authorised length of stay and possibility of renewal	Possibility of family reunification
<b>UNITED STATES</b>					
<i>1. Permanent immigration</i>					
Employment-based immigration (Green Card system for professionals with advanced degrees in sciences art or business, priority workers and other skilled workers).	N/A.	Yes.	Generally limited to 140.000 annual entries (including family members).	Permanent.	Yes.
<i>2. Temporary</i>					

<i>immigration</i>					
H-1B programme	Bachelor degree or 4 years of study at college level. 3 years of relevant experience can count as 1 year of college. Having an employment offer at the same conditions as nationals.	No.	Yes, 195.000 for the next 3 years. Jobs in non-profit-making organisations and universities are not included in this quota.	6 years. Residence allowed while immigrant application is being considered.	Yes, but family members are not allowed to work without authorisation.
Temporary skilled immigrants accepted under NAFTA	Bachelor degree or 4 years of study at college. 3 years of relevant experience can count as 1 year of college.	No.	No, except a quota for Mexican professionals (5.500) until 1 January 2004.	1 year renewable indefinitely.	Yes.
1. Applicants who meet the minimum skill, age and English language requirements, but who may not meet the points test can be eligible in the skilled-regional sponsored category if they are sponsored by relatives living in a designated area (Sydney, Newcastle, Wollongong, Perth, Brisbane, the Sunshine Coast are not designated areas).					
2. Other more limited programmes (labor agreements, regional headquarters agreements) allow employers to negotiate with the Government the temporary entry (generally for 3 years) of skilled workers.					
3. No minimum skill level is imposed for EEA workers. The free movement of persons between Switzerland and the European Union should enter into force in 2001.					
4. Fast track procedure (50% of applications are clear within a week and 90% in 4 weeks)					