A shortened version of this paper is to be published in Arvind Panagariya, Robert Stern and Gianni Zanini, eds., *Handbook of Trade Policy for Development*, Oxford University Press, New York, New York, forthcoming.

Migration:

The Globalization of International Labor Flows, its Causes and Consequences*

By

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February 2010

* The author is grateful to the comments of an anonymous referee as well as those of the participants of a World Bank Trade Policy Executive Program at Columbia University.

Learning Objectives

- This module provides a detailed discussion of the key recent trends in international migration, the determinants of migration flows, the consequences for the source and host countries, and the relationships between migration flows and international trade in services. The most recent theory and evidence available on the globalization of labor flows is presented.

- The module begins with a detailed examination of the recent trends in world migration and international migration policies, including an analysis of net versus gross migration flows, a decomposition of global migration by region and country, documented and undocumented migration, temporary and permanent migration, and skilled versus unskilled migration,

- It then proceeds to examine the causes of these migration flows, including an analysis of the main economic factors involved, demographic forces, the role played by distance, geography and culture, immigration policy restrictions, and the political economy of immigration policy.

- This is followed by an analysis of the consequences of international migration. Initially, the discussion turns to the migrants themselves, studying how migrants fare in the host countries. This involves a study of the labor market outcomes of migrants and the determinants of these outcomes, including cohort effects, educational attainment, the relative economic status of undocumented immigrants, networks and transnationalism, and a discussion of the assimilation of migrants.

- The module also covers the role played by social and political conflicts in the growth of migration in recent years and the proliferation of refugees and asylum-seekers in the world.

- The consequences of migration for the host countries are examined. This includes an analysis of the labor market effects of skilled versus unskilled migration, the theory and empirical evidence on the impact of immigration on the wages and employment opportunities of non-immigrants in the host countries, the public finance impacts, etc.

- The discussion then turns to the impacts on source countries, looking at the labor market effects of emigration, the impact of remittances, and an analysis of the brain drain and its various effects on sending country economies.

- The module concludes with a discussion of the connections between migration flows, international trade in services and the World Trade Organization.

- Case studies showcasing the diversity of migration experiences in the developing world are presented throughout the module, including discussions of migration issues in every region of the world and presenting evidence from a wide array of developing countries, from Mexico and the Dominican Republic to Saudi Arabia and the Czech Republic.

Executive Summary

- Global migration flows have exploded in recent years. In 1960, there was a stock of slightly over 75 million people residing in countries other than their country of birth. By 2005, this number had risen to 190 million. Out of these, 125 million migrants or 65 percent originated in developing countries.
- The United States is the largest recipient of migrants, with over fifteen million migrants becoming permanent residents of the U.S. since 1990, and with 3 million of these settling in the country just in the period of 2000 to 2005.
- Even developing countries themselves have become substantial labor importers. Some of the major importers of labor in the developing world include India, Russia and other former Soviet Republics, Saudi Arabia, Pakistan and Iran.
- The recent growth of migration flows has led to significant increases in the migrant populations of some of the host countries. In the U.S., for example, immigrants accounted for 5.2 percent of the population in 1960, but this had risen to 12.8 percent in 2005. The country with the highest immigration rate in the world is Qatar, where immigrants accounted for 78.3 percent of the population in 2005.
- Mexico had the highest number of emigrants in the world in 2000, equal to over 10 million. This was followed by India, which had close to 9 million persons abroad.
- The majority of migrants from developing countries are relatively unskilled. But for some countries, skilled emigration is most significant. The highest skilled emigration rates in the world in 2000 were in the Caribbean, where as much as 42.8 percent of the region's tertiary labor force resides outside its borders. There are also relatively high rates of skilled emigration in Africa. African countries with the highest skilled emigration rates include Cape Verde (67.5 percent), and Gambia (63.3 percent).
- More relaxed immigration policies partly account for the rise of mass migration in the world. Changes in immigration policies are connected to social, economic and political forces in the recipient countries. Acute labor shortages, for instance, have motivated business groups to seek a relaxation of immigration restrictions. Declining population growth has also led some governments to attract immigrants. But xenophobia and nativism can also exert their influence, leading to threats of increased restrictionism.
- Government policies seek to regulate migration flows but they often cannot control the mass of persons who wish to move, leading to the growth of undocumented migration. In the U.S. alone, more than 10 million undocumented workers resided in 2005.
- The classical economic approach sees the decision to migrate as an investment decision that depends on individual assessments of the net balance of the present and future costs and benefits of migration. There is substantial evidence supporting this approach.
- However, the evidence also suggests that the relationship between income per-capita in source countries and emigration has an inverted-U shape. For poor countries, as income rises, migration actually *increases.* But as the wealth of a country grows, at some point, further increases in income per-capita actually reduce emigration. A number of theoretical approaches have emerged to explain the paradoxical rise of migration as income increases, including the world systems approach and relative deprivation theory.
- Demographic forces may push workers in developing countries to migrate. Many developing countries have undergone demographic transitions that have expanded their cohorts of young workers, from which migrants tend to originate. There are also

demographic forces that pull migrants into high-income economies suffering from a slowdown or even negative population growth rates.

- The economic returns to migration are substantial and a vast literature has developed calculating those returns. But there are a number of forces that can depress the labor market outcomes of migrants relative to non-immigrants in host countries. One of them is the duration of stay of the migrants in the country: immigrants generally face an initial shortfall or dip in their labor market performance after they arrive in a recipient country.
- A second force that may explain a shortfall in the economic performance of immigrants relative to non-immigrants is the selectivity of the migration process. If emigrants are negatively-selected out of the source country population, they will have lower skills and may not perform as well in the host countries. The so-called Roy model argues that, the more unequal the distribution of income is in the source country, the more likely that the emigrant contingent will be biased in favor less-skilled workers. On the other hand, emigrants may be positively-selected if income distribution in the home countries is more equalitarian. Furthermore, given the effort required by the emigration process, migrants may be expected to be positively-selected, displaying unusual motivation and drive.
- The impact of migration in recipient countries has been a matter of serious controversy. Although mixed, most of the evidence suggests that the labor market impact of immigration in the U.S. and other host countries is small. Furthermore, when immigrant inflows have a skill composition similar to that of the native population, there are fewer adjustments in wages or employment in the host country. On the other hand, labor flows that are tilted in favor of either skilled or unskilled workers have greater impacts on relative wages. Domestic factors of production that are complementary with the migrants will benefit from the influx while groups that compete or are substitutes for the migrants will have wages and employment opportunities negatively impacted by immigration.
- The labor market effects of emigration on source countries also depend on the skills that the migrants take away from the source countries as well as the complementarity and substitutability with other workers. However, when emigration leads to the loss of the most talented and skilled in a country, as in a so-called brain drain, it can have substantial negative externalities. If the emigrants are employed in local service sectors, the result can be acute shortages in the supply of essential services, from school teachers and nurses to professors and doctors, having a devastating effect on those left behind.
- Any potentially negative effects of emigrants on the labor market or on the supply –and cost-- of essential services must be weighted against the benefits of the remittances sent by the migrants to their families back home. In 2005, developing nations received $605 billion worth of remittances. For some countries, remittances are a major component of the balance of payments. In India, for instance, migrant remittances are equal to 26.2 percent of merchandise exports. In the Philippines, the comparable figure is 30 percent.
- Although remittances are often used for purely consumption purposes, in many countries a large share of them is used for wealth-enhancing activities, such as to develop a small business, for construction purposes, or to buy automobiles or consumer durables.
- The international movement of workers is not an area of international trade that is under the general jurisdiction of the WTO. However, the WTO does consider temporary migration flows as part of its General Agreement on Trade in Services (GATS). International migration enters as part of GATS so long as the workers are producing or consuming a service. But WTO involvement with migration issues is in its infancy.

1. Introduction

Global migration flows have exploded in recent years. Just as international trade in goods and services has expanded by historical proportions, so has the movement of people. In 1960, there was a stock of slightly over 75 million people residing in countries other than their country of birth. By 2005, this number had exploded to 190 million. Most of these migrants –65 percent of them-- were born in developing countries and they were spread all over the world. The United States is the largest country of immigration and a number of European countries follow suit, including Germany, the United Kingdom, France and Spain. But some of the major importers of labor are in the developing world. Indeed, half of all migrants born in developing countries have moved to other developing countries, such as India, Pakistan and Russia.

There are many reasons for the rising globalization of labor flows. Many recipient countries have relaxed their immigration policies, allowing more people in. But economic forces as well as social and political upheavals have created a tide of migrants that governments often find difficult to control. Undocumented migration has proliferated. From the northern states of Mexico to the western and northern coasts of Africa, thousands of potential migrants struggle every day to undertake perilous trips north, to the United States, to Spain, Italy and beyond, to enter these countries without immigration documents, in search of improved standards of living. The host countries struggle with their immigration policies to deal with these migrants.

For many developing countries, international labor migration flows have become an integral part of their economic life, as much as trade and investment flows. The money the migrants send back home has become a major source of income for many families. For some countries, the income received from the services of workers abroad is now a major item of the balance of payments. But these flows are not without their costs. For many years, the issue of the brain drain has been studied by international economists. Whether it involves software engineers in India, doctors in the Philippines or nurses in Sub-Saharan Africa, the exodus of skilled migrants has been a source of concern for many. The impact on the skilled labor forces of some

countries has been substantial, especially in sub-Saharan Africa. In Ghana, for example, over 40 percent of persons with a college degree or more have migrated to other countries. In Gambia, the corresponding proportion is close to 65 percent, and in Somalia it is 59 percent.

What are the consequences of international labor migration flows? How do they benefit or hurt the recipient countries? And what benefits or costs do they impose on the sending nations? This module seeks to answer these questions, presenting the existing literature by experts and practitioners in the field of international migration. The module begins with a discussion of the recent trends in global migration flows. It then proceeds to examine the causes of these migration flows and the consequences for the migrants themselves as well as the source and recipient countries. The module concludes with a discussion of migration policies, including an analysis of the current and potential future role played by the World Trade Organization in the management of labor flows, as part of the General Agreement on Trade in Services (GATS).

2. Global Migration Trends

Historically, the volume of world migration flows in the last century has generally followed the same patterns as those of international trade in goods and services. From a period of significant openness in the early twentieth century, migration flows dropped precipitously in the 1920s and 1930s, gradually rising after World War II and gathering a strong momentum in the last decades of the twentieth century. This section documents the trends in the magnitude of world migration, by type of migrant, by country and region of origin and destination, and by occupation or skill.

International migration refers to the movement of people across national borders. Data on migration are available directly from national immigration authorities in recipient countries (such as the U.S. Department of Homeland Security). However, the data available for many countries are sketchy and difficult to compare with that of other countries due to differences in migration

policies, definitions, etc. Some international organizations gather cross-country information on migration and seek to provide more uniform, comparable statistics. The Organization for Economic Cooperation and Development (OECD) has for many years collected data on the migration of OECD countries and has an extensive database for these countries [see, for example, OECD (2006)]. The United Nations has the most comprehensive worldwide database on the number of migrants residing in different countries, included as part of the activities of the Population Division of its Department of Economic and Social Affairs [see United Nations (2006)]. There are also data collection efforts supported by the World Bank [Docquier and Marfouk (2006)], the International Monetary Fund [Carrington and Detragiache (1998)], and other institutions, such as the Development Research Centre on Migration, Globalisation and Poverty at the University of Sussex [see Parsons, Skeldon, Walmsley and Winters (2007)].

A. Mass Migration in the Era of Globalization

How much has the number of people moving out of developing countries and into industrialized economies increased in recent years? How have migration flows affected the supply of labor in the home countries and the population of the recipient countries?

The country that admits the most migrants in the world is the United States. Figure 1 shows the massive growth in the number of immigrants admitted by the United States each year from 1975 to 2005. This figure rises from less than 400,000 in 1975 to over one million in 2005.

[Figure 1 about here]

But the U.S. is not the only country where migration has expanded in recent years. In Germany, the expansion of gastarbeiter programs in the 1950s and 1960s ended in the early 1970s. But after a period of low immigration, German migration has rebounded and over 11

million immigrants have been admitted to the country since 1990. Compared to the United States and most European countries, Japan remained a relatively closed country in terms of migration flows until recently [see Oka (1994)]. In 1990, there were slightly over 1 million foreign-born persons residing in Japan. But since that time, close to four and a half million immigrants have been admitted. In Canada, about 3 and a half million immigrants have been admitted as well since 1990. And countries that in the past were exporters of labor have become themselves immigrant destinations. In Spain, a country of emigration until the 1970s, the flow of immigrants began to grow in the late 1990s. By 2004, the annual number of immigrants admitted had exploded to 645,800. In Italy, another country which suffered from mass emigration in the recent past, there were over 300,000 migrants admitted in 2004, up from 111,000 in 1998.

Although these data suggest a massive expansion in the number of persons flowing into a wide array of destination countries, they do not tell us whether the population of migrants in those destination countries has increased or not. In order to answer this question one must deal with the fact that there may be a substantial *return migration* back to the source countries. As a result, the inflows of migrants into a country may be offset by migrant outflows. This issue raises the need to differentiate between gross and net migration flows. *Gross* migration flows represent the number of persons from one country that migrate into another country during a certain period of time, as was illustrated by the data for the United States in Figure 1. But during that same time period, one may also observe a flow of emigrants moving out of a host country back to its home country. *Net* immigration flows measure the net balance of immigrants and emigrants moving into and out of a country during a certain period of time.

Figure 2 shows the big difference that calculating gross and net migration flows can make. The data are for Germany and the figure display the gross inflows and outflows of Polish

migrants in the period of 1992 to 2001. As can be seen, the gross inflows of Polish workers to Germany were substantial during this time period, ranging from 131,700 persons in 1992 to about 80,000 in 2001. If one sums these migration inflows, it adds up to 813,400 immigrants. One might be misled into concluding that the Polish population in Germany sharply increased during the 1990s. This is not correct because, as shown in Figure 2, during this same time period, there was a substantial gross emigration of Polish migrants out of Germany. In fact, the accumulated number of emigrants moving out of Germany and back into Poland was 613,900 between 1992 and 2001. Figure 2 shows the net flows of Polish migrants into Germany, which was still positive for most of the 1990s but much lower than the gross inflows. The accumulated net inflow of Polish migrants into Germany was about 200,000 between 1992 and 2001.

[Figure 2 about here]

Since the impact of migration in both sending and recipient countries depends partly on whether migrants stay or not in their host countries, it is important to estimate net migration flows. This is, however, difficult because most recipient countries usually do not collect data on the flow of migrants who move out. This is certainly the case of the United States. In addition, most source countries do not gather data on migrants returning home either. Fortunately, one does not need to rely on measuring migrant flows to determine whether migrants are moving on a net basis. One can focus instead on examining the stock of migrants in the recipient country. An analogy may help here. One need not measure the amount of water going into and out of a vessel to calculate whether the water level in the vessel is rising or not. Just by examining directly the level of the water, one can measure the balance of the gains or losses of water in the vessel. Counting or estimating the *stock* of immigrants residing in the recipient country (the accumulated number of migrants) is the equivalent of measuring the level of the water in a

vessel. It makes unnecessary measuring return migration since the stock of migrants in the recipient country includes only the migrants who have stayed in the host country, automatically excluding migrants who have returned home.

Information on the stock of immigrants residing in a country is usually based on census-type surveys of the country involved. Most of those surveys do ask questions regarding the place of birth of the person being counted or surveyed. One can therefore calculate the *foreign-born population* of the recipient country, which includes all the first-generation migrants who were born outside the country and crossed the border into the host country at some time in their life.[1] Sometimes, statistical publications will include data on the *foreign population* of a recipient country. This concept consists not only of first-generation migrants but may also include persons born in the host country but who are considered to have the nationality of the home country where their parents were born. The reason this is significant is because many governments do not automatically consider the children of immigrants born in the host country to be citizens or nationals of that country. They are thus considered "second-generation migrants" and included as part of the foreign population.

The Magnitude of World Migration

Table 1 shows the massive growth in the estimated number of international migrants in the world over the last 45 years. In 1960, there was a stock of slightly over 75 million people residing in countries other than their country of birth. By 1990, this number had grown to 155 million, exploding to 190 million in 2005.

[Table 1 about here]

[1] A significant effort has to be made to count undocumented immigrants, who may not identify themselves to census takers and may hence be undercounted.

The great majority of migrants move to rich countries. In 2005, 115 million migrants were residing in high-income economies, representing about 60 percent of the total number of migrants that year. Most of these migrants came from developing countries. In fact, 62 million people born in developing countries were residing in high-income nations in 2005. In addition to these migrants, high-income economies had significant intra-regional migration, with 53 million migrants from high-income countries residing in other high-income economies.

But the fact that 75 million migrants have not moved to high-income economies but are instead located in developing countries is not insignificant. There were 14 million persons born in high-income countries who had migrated to developing nations in 2005 and 61 million migrants from developing nations were residing in other developing nations. The motivation for these flows will be discussed in a later section. Some of it involves refugees and asylum-seekers, forced out of their home countries by civil strife, but a large fraction consists of migrants seeking improved economic opportunities. Resource-rich developing countries –such as Saudi Arabia, South Africa or Venezuela-- and other newly-industrialized developing countries –such as Malaysia or Mexico-- can offer improved employment opportunities to their poorer neighbors.

Countries of Immigration

Table 2 shows the countries with the largest immigrant populations in 2005. The United States had by far the largest group of immigrants in the world, with over 38 million in 2005. The countries sending the largest number of migrants to the United States include Mexico (11,258,554 migrants), India (1,467,160), China (1,252,243), Vietnam (1,033,638), El Salvador (1,001,180), Cuba (940,972), Canada (863,512) and the Dominican Republic (737,266). As these numbers attest, the great majority of migrants residing in the U.S. come from just two regions:

Latin America and the Caribbean (with 51.3 percent) and Asia (with 22 percent).

[Table 2 about here]

The second largest country of immigration is the Russian Federation, which had 12 million residents born in other countries in 2005. Note, however, that a significant fraction of these migrants moved into Russia during the Soviet Union era. The approximately 3 million persons born in the Ukraine who now reside in Russia, or those from Kazakhstan, Georgia and Belarus, were to a large extent originally internal migrants, only considered international migrants after the breakup of the Soviet Union. A similar situation holds for two other countries listed in Table 2: the Ukraine and Kazakhstan.

Several European countries are among the largest importers of migrants. As Table 2 shows, these include Germany, France, the United Kingdom, Spain and Italy. Just as the largest fraction of migrants in the United States comes from neighboring Latin America and the Caribbean, in European countries the migrants are predominantly from other European countries or from the Middle East and North Africa. In Germany, the largest immigrant group in 2005 came from Turkey (1.2 million in 2000), followed by Italy (364,750 in 2000), Serbia/Montenegro (281,000), Greece (212,000), Poland (205,750) and Russia (163,804). For France, the biggest migrant group came from Algeria (1,246,706 in 2000), followed by Morocco (709,563 in 2000), Portugal (579,465), Italy (409,190), Spain (342,071) and Tunisia (340,752). In the case of the United Kingdom, which had 5.4 million migrants in 2005, the largest immigrant group was from Ireland (537,108 migrants in 2000), followed by India (467,634 in 2000), Germany (266,136), U.S.A. (158,439), Bangladesh (157,362) and Jamaica (146,401). For Spain, the largest immigrant group in 2005 was from Morocco (313,739 migrants in 2000), followed by Ecuador (218,367 migrants), and France (156,081).

Among the largest migrant importers in the developing world, Saudi Arabia stands out, with 6.4 million immigrants in 2005. The largest migrant populations in Saudi Arabia come from India (1,228,652), Egypt (1,195,189), Pakistan (778,668), the Philippines (450,967), Yemen (424,398), and Indonesia (349,458). Other Middle Eastern countries with large immigrant population include the United Arab Emirates, with 3.2 million immigrants in 2005, Jordan, which had 2.2 million immigrants in 2005, Iran, with close to 2 million, Kuwait with 1,7 million, Oman with 627,571 and Qatar with 636,751 migrants.

Another major country of immigration among developing countries is India, which had 5.7 million immigrants in 2005. The largest migrant populations in India include persons from Bangladesh (3,742,883 in 2000), Pakistan (1,305,707), Nepal (640,862) and Sri Lanka (183,183).

The large magnitude of the migration flows just described has led to significant increases in the relative percentage of the immigrants relative to the national populations of the host countries, an indicator referred to as the *immigration rate*. In the United States, immigrants accounted for 5.2 percent of the population in 1960, and this had risen to 12.8 percent of the population in 2005. In Germany the immigration rate rose from 7.5 percent in 1990 to 12.3 percent in 2005, in Italy it increased from 1.5 percent in 1960 to 4.3 percent in 2005, and in Spain from 0.8 percent in 1960 to 11.1 percent in 2005.

But despite these increases, immigration rates for most recipient countries remain relatively low. This is depicted by Figure 3, which displays immigration rates in the world in 2005. For most host countries, immigration rates remain below 10 percent.

[Figure 3 about here]

There are, however, some countries that do stand out for the heavy importation of migrants. The country with the highest immigration rate in the world in 2005 was Qatar, where

immigrants accounted for 78.3 percent of the population. Qatar is endowed with major reserves of oil and natural gas and has been one of the fastest-growing economies in the world in recent years. All over this country, from managers and engineers from the U.S., Canada, the U.K. and other countries to taxi drivers and restaurant staff from the Philippines, India and Pakistan, the foreign labor force is visible. Other countries in the region also have major immigrant populations, including the United Arab Emirates, with an immigration rate of 71.4 percent, Kuwait (62.0 percent), Jordan (39.0 percent), Saudi Arabia (26 percent), and Oman (24.4 percent). Other countries with high immigration rates are Luxembourg (37.2 percent), Switzerland (22.9 percent), and Australia (20.3 percent).

Countries of Emigration

Table 3 displays the countries that had the largest emigrant populations in 2000. Mexico had the highest number of persons residing abroad, equal to over 10 million in 2000, largely in the United States. This was followed by India, which had close to 9 million persons residing abroad in 2000, with the country's diaspora spread all over the world, from the United States, to Europe and the Middle East. Bangladesh had 6.6 million emigrants, with 3.7 million in India, half a million in Saudi Arabia, and hundreds of thousands in the U.K., U.S.A. and other countries.

[Table 3 about here]

How does emigration affect the labor force of the sending countries? Although the figures that have just been presented measure the magnitude of the exodus of workers from a country, they do not tell us much about the importance of the emigration relative to the labor force of the source country. For instance, India is one of the countries with highest emigration levels, with close to 9 million, but this is a small number relative to India's population of 1.1

billion people. Furthermore, overall migration figures, which include children and retirees, do not tell us the number of working-age persons within the emigrant contingent.

Labor emigration rates are defined as the people in the labor force of a country who have migrated to other countries, calculated as a percentage of the total labor force in the source country augmented by the migrants themselves. This shows the percentage of workers born in a country that is residing outside its borders and is a measure of the relative impact of the emigration on the sending country labor market.

Suriname and Guyana have the world's highest labor emigration rates, with 43.3 percent of Suriname's labor force residing outside its borders and 34.5 percent of Guyana's. This is followed by Jamaica, with a 30 percent labor emigration rate, and the West Indies (such as Grenada and Barbados), where 28.7 percent of the labor force is living outside. In Africa, the countries of Cape Verde and Somalia have the highest emigration rates (23.5 percent and14.6 percent, respectively); in Asia and the Pacific, the Pacific islands have the greatest emigration rate (16.4 percent), in Western Europe it is Malta and Ireland (with 23.9 and 22.8 percent, respectively) and in East-Central Europe it is Bosnia/Herzegovina (with 15.9 percent).

Measuring the Brain Drain

The emigration of skilled workers has been one of the major concerns for developing countries. As an example, the emigration of registered nurses from a number of countries to the United Kingdom, New Zealand, Canada and the United States has been accelerating during the last decade, as aging populations in these countries and a severe shortage of skilled nurses have spilled-over into increased recruitment of nurses abroad. The countries most affected by the emigration are the Philippines and India, but there have been an increasing number of nurses

recruited in Africa, including South Africa, Nigeria, Ghana, Kenya and others. The situation in Malawi, a country devastated by AIDS, is dire, as reflected by the following passage from a *New York Times* article on the issue published in 2004: "[Malawi is] afflicted with one of Africa's most severe nursing shortages: almost two-thirds of the nursing jobs in the public health system are vacant. More registered nurses have left to work abroad in the past four years than the 336 who remain in the public hospitals and clinics that serve most of the country's 11.6 million people." (Dugger, 2004, p. A6).

To measure the magnitude of skilled emigration or brain drain, economists subdivide a country's labor force into those who are skilled –generally considered to be those who have some tertiary education, that is, 13 years of schooling or more-- and those who are less-skilled, who have achieved less than tertiary education. The *skilled emigration rate* is then defined as the stock of skilled migrants from a country (all persons with tertiary education living abroad) calculated as a percentage of the total skilled labor force in the source country augmented by the skilled migrants themselves. This shows the percentage of workers with tertiary education who were born in a country but is residing outside its borders. Hence, it is a measure of the relative impact of the emigration on the sending country's skilled labor market.

Table 4 shows the highest skilled emigration rates in the world in 2000. The highest rate prevails in the Caribbean, where as much as 42.8 percent of the region's tertiary labor force resides outside its borders. Within the Caribbean, the brain drain is the most significant in Jamaica, where 85.1 percent of the skilled workforce has emigrated, Haiti, with an 83,6 percent emigration rate, Trinidad & Tobago, where 79.3 percent of the skilled labor force is abroad, and the Minor Antilles, where 57.4 percent of workers with tertiary education have emigrated.

[Table 4 about here]

There are also relatively high rates of skilled emigration from East Africa, where 18.6 percent of the skilled labor force lives outside the countries of origin, Central Africa, with a 16.1 percent skilled emigration rate, and West Africa, with a 14.8 percent skilled emigration rate. African countries with the highest skilled emigration rates include Cape Verde, where 67.5 percent of the skilled workforce is abroad, Gambia, with a 63.3 percent skilled emigration rate, Somalia (58.6 percent skilled emigration rate), Eritrea and Ghana.

The emigration of the skilled has been rising, just as global migration flows have increased in general. In OECD countries, for example, there were 12.5 million skilled immigrants of working age in 1990, but by 2000 the number had risen to 20.4 million. In the United States, the number of skilled immigrants rose from 6.2 million in 1990 to 10.3 million in 2000. In Australia, from 1.1 to 1.5 million, in Canada from 1.8 to 2.7 million, Germany from 0.5 to 1.0 million, and in the United Kingdom from 0.6 to 1.3 million.

3. A Profile of World Migration Policies

Institutions are the rules of the game that govern individual and social actions in any society [see North (1990)]. International migration laws are the institutional framework within which global migration flows occur and the single most important factor determining those flows.

With few exceptions, emigration policies have disappeared as a major factor inhibiting migration flows in the world. Instead, it is immigration policies that have been the major determinant of global migration. Immigration policies are as varied as there are countries in the world. However, most governments differentiate between permanent and temporary migrants. Generally, *permanent migrants* include persons who enter (and stay in) a country seeking a

permanent residence, long-term employment or citizenship. In the United States, they are referred to as "green card" recipients. *Temporary migrants*, on the other hand, are admitted into a country for a specified period of time, often for a specific purpose, such as under a work contract. Let us look first at permanent migration policies.

Permanent versus Temporary Migration

Permanent migrants may be admitted to the recipient country under a variety of categories or preferences, but most countries have three categories: (1) economic, which admits immigrants on the basis of their employment, occupation or other economic characteristics, (2) social, which may involve the immediate family of citizens, kinship or relatives of immigrants, and (3) humanitarian, which involves the admission of asylum-seekers and refugees.

Different countries have different policies towards –and give different importance to-- each category. In the United States, for example, the family reunification category has generated the most migrants since immigration reforms were introduced back in 1965. Family reunification immigrants include spouses, sons and daughters of U.S. citizens and permanent residents and brothers and sisters of U.S. citizens aged 21 and over. In 2005, of the 1,122,373 immigrants admitted to the United States, a total of 649,201 (or 57.8 percent) were included as part of a family reunification category. In addition, there were 246,878 employment-based immigrants, and142,962 asylum-seekers and refugees (U.S. Department of Homeland Security, 2006).

Canada has given increasing weight to admitting immigrants in the economic category. The percentage of all immigrants admitted under this group has risen from 34.9 percent in 1980 to 58.7 percent in 2000 [Beach (2006)]. Furthermore, a system of points was introduced in 1967 to evaluate immigration applicants on the basis of skills. This system provides an advantage to

greater skills and it has therefore led to an increasing importance of skilled migrants in Canadian immigration flows over time.

Temporary labor migrants consist of persons who cross borders for a limited period of time with the objective of working or supplying some type of service, such as laboring in a farm, teaching at a university, etc. Temporary labor migrants do not include tourists, students or others who cross borders to engage in activities unrelated to work or supplying an economic service.

Most recipient countries have immigration policies that allow temporary labor migration. In Europe, guest worker (gastarbeiter) programs in Germany, France and other countries proliferated in the 1960s and early 1970s. Connected to severe labor shortages in the recipient countries, the guest worker programs recruited migrants largely from the Mediterranean [see Bohning, 1972]. For instance, the annual migration of Turkish and Yugoslav workers to Germany rose from a few thousand in 1960 to over 300,000 in 1970. In France, the yearly inflow of foreign workers rose from 146,000 in 1958 to about 310,000 in 1970, with migrants coming from Spain, Italy and North Africa.

A large fraction of European guest workers forged strong bonds in the recipient economies over time and ended up staying in the host countries on a long-term basis. The temporary migration programs themselves were either eliminated or sharply curtailed after 1973, partly a result of the post-1973 recession that affected most of Europe and partly due to the emergence of nationalist feelings that blamed migrants for the Continent's social and economic woes. Although internal European migration and the admission of asylum-seekers sustained migration flows in the European Union, migration from outside the EU rebounded again only in the early 1990s [see Fertig and Schmidt, 2002] .

Box 1: U.S. Temporary Migrants

Although the United States currently has an immigration policy that focuses on permanent migration, it does also have a long history of temporary migration. In the nineteenth century, temporary contract workers predominantly from China, Japan and the Philippines were recruited as farm workers, railroad workers and in a number of other sectors. During World War II, in the 1940s, the U.S. faced a serious domestic labor shortage as millions of young men and women went abroad as part of the war effort. As a result, in August 1942, the U.S. and Mexico signed a bilateral agreement that allowed for the legal immigration of temporary Mexican laborers (called in Spanish *braceros*) into the U.S. The Bracero program peaked in the late 1950s when over 400,000 Mexican workers were recruited each year. The program was sharply curtailed in the following years and terminated in 1964 partly due to a growing perception among policymakers that there was rampant exploitation and violation of bracero civil rights (Morgan and Gardner, 1982). Temporary worker admissions declined in the 1970s, only to rebound in the late 1980s.

The U.S. currently offers a wide array of programs for temporary migrant workers. These programs have grown to become a major part of the U.S. immigration system. Box Table 1 shows the changes in the annual number of temporary migrant workers admitted in the U.S. between 1985 and 2005. The growth is exponential, rising from less than 75,000 in 1985 to over 725,000 in 2005. The H-1B program of specialty occupations and the H-2 seasonal worker programs are the largest temporary worker programs, but the former has come to dominate, with close to 60 percent of all temporary migrants in the U.S. entering through the H-1B program.

In order to enter the U.S under the H-1B program, a foreign worker must be sponsored by its employer, which must file its application with the Department of Labor. Once the Department of Labor certifies the application, it is then submitted to the United States Citizenship and Immigration Services for processing. Under the program, workers can stay for three years with extensions that can add up to a maximum of six years in the U.S. Workers under the H-1B program are highly-skilled and close to 50 percent of them have a master's, doctoral or professional degree. The largest specialty occupations include computer systems analysts and programmers, professors, physicians and surgeons, engineers, and accountants.

Table 1 – Box 1
Recent Growth of Temporary Workers in U.S. Immigration

Fiscal Year	All Temporary Migrants Admitted	Number of Specialty Migrants Admitted	Number of Seasonal Migrants Admitted
1985	74,869	47,322	---
1990	144,880	100,446	35,973
1995	220,664	117,574	25,587
2000	634,385	355,605	84,754
2005	726,535	407,418	129,239

Source: Yearbook of Immigration Statistics, various years.

Box 1 Continued

In addition to the migrant workers themselves, their immediate family members are eligible for temporary migrant status. This more than doubles the number of temporary immigrants admitted each year. In fiscal year 2005, a total of 1,573,631 temporary migrants were admitted to the U.S. A substantial fraction of these migrants comes from developing nations. In 2005, as much as 370,627 temporary migrants from Latin America and the Caribbean were admitted, followed by 300,043 from Asia. The single largest country of origin is India, which had 194,611 temporary migrants admitted to the United States in 2005.

Temporary worker programs are increasingly popular. In Europe, despite the demise of the mass migration flows under the gastarbeiter programs in the 1970s, temporary worker programs have rebounded over the last 15 years. Germany itself admitted 358,200 persons through temporary work visas in 2004, and the United Kingdom 106,400. But temporary migration is significant all over the world. Australia, for example, admitted 225,600 temporary workers in 2004. And the majority of the hundreds of thousands of Korean, Brazilian, and Filipino migrants residing in Japan are under temporary work contracts [Kashiwazaki (2002)].

In the Middle east and North Africa, hundreds of thousands of temporary workers are recruited by the wealthier nations –such as Saudi Arabia, Kuwait, Qatar and others— from a variety of countries, some close –such as Egypt, Jordan and Yemen—and others far away – Pakistan, Indonesia and Malaysia. In Southeast Asia, most recipient countries or regions --such as Hong Kong, Singapore and Japan-- offer short-term work permits to millions of workers from the Philippines, Indonesia and Malaysia, among others. In Singapore, for example, there were 621,400 immigrant workers in 2004, but it is estimated that 500,000 of these were hired by means of temporary work permits [Asian Development Bank (2006), p. 9]. In Hong Kong, there were 340,000 foreign workers residing in 2004, most of them hired as temporary "foreign domestic helpers," which includes mostly female workers employed in household work.

4. Undocumented Migration

Although immigration policies generally have a major role in controlling migration flows, the reality is that a rising proportion of global migration involves persons who have crossed the border into a country and are residing in that country without any legal visa or immigration documents. A multi-billion dollar global business has developed that transports illegal migrants from source to destination [see Kyle and Koslowski (2002)]. But the prospective illegal migrants may also enter the recipient country by legal means, with tourist, student or temporary work visas that are allowed to expire. With legitimate visas in their hands, the migrants can simply walk through the inspection booths at a country's ports of entry. Once they overstay their visas, they can quietly blend into the recipient country and avoid detection.

Since by definition the undocumented immigrant population cannot be officially counted, one must rely on indirect methods to estimate its size. Apprehensions of persons seeking to enter a country illegally provide a rough picture of the magnitude of the flow of undocumented workers. The fact is that the percentage of migrants who are not caught by authorities –and therefore go on to successfully cross the border undetected-- is difficult to surmise and varies with the resources available and the extent of the effort made by authorities to apprehend the illegal border-crossers. In addition, border apprehensions do not measure undocumented migrants entering legally but who overstay their visas. Other methods are available to estimate visa overstayers, however. Many countries, for example, use double-entry immigration cards, in which persons coming into the country fill out an immigration card, one half of which is kept by immigration authorities upon entry and the other half is surrendered when departing from the country. One can then calculate the number of half-matches, which includes persons who filled

the first half of the card but not the second part. After deducting persons who die or change their immigration status, one then has an estimate of persons who stayed in the country in violation of immigration regulations. This system is used by Australia and Japan, among others, but not by the United States. In any case, note that this method only measures visa overstayers and does not count persons who enter the border undetected [see Tapinos (1999)].

The most reliable estimates of undocumented workers have been obtained in recent years using the so-called *residual methodology*. This methodology calculates the number of illegal immigrants present in a country as the difference between the total number of immigrants who are counted in the recipient country at any given moment in time and the number of legal immigrants residing in the country. The first step, therefore, is to identify the overall immigrant population in the country, which is usually done by means of national surveys of the population, such as the decennial Census. These surveys are able to provide a count or estimate of the overall population residing in the country, including the total immigrant population residing at the time. What few if any of these surveys does, however, is to specify the legal status of the immigrants, which means that they cannot separate it into legal and illegal components. This is where a count or estimate of the number of legal immigrants becomes necessary. But most countries' immigration authorities do have reasonably accurate estimates of the number of legal immigrants who are residing in the country at any given moment in time. An estimate of the number of illegal immigrants is then provided by the difference, or residual, between the total number of immigrants counted or estimated by using Census-type data and the number of legal immigrants counted through the use of immigration data.

[Table 5 about here]

This methodology has been applied to obtain estimates of the illegal immigrant

population in the United States, Europe and other countries [see Pinkerton et. al. (2004), Hoefer et. al. (2006), Pew Hispanic Center (2006), and OECD (2006)]. Table 5 shows some of the latest estimates available. Although Italy, Spain, Greece and a number of other nations are estimated to have significant undocumented populations, the United States has by far the highest number of undocumented immigrants, equal to 10.5 million in 2004, up from 3.5 million in 1990. Note that undocumented or irregular migration is not only a characteristic of industrialized economies. Developing countries that are recipients of migrants are also subject to such migration flows. Reliable estimates of these populations, however, are not widely available.

5. The Determinants of International Migration Flows

What has caused the mass migration documented in the previous sections? There is a massive literature examining the determinants of migration flows. This section presents the main forces and conceptual approaches that seek to explain migration flows.

A. International Migration Policies

International migration policies are the single most important factor determining those flows. Restrictive migration policies –whether in the form of stringent exit requirements from a sending country or strict immigration quotas in the recipient countries—are usually one of the strongest factors reducing migration flows. North Korea, for instance, has stern exit requirements and its migration flows are among the lowest in the world, limited mostly to China and Russia. Australia, on the other hand, has had liberal migration policies and, as established in the last section, is one of the countries with the highest immigration rates in the world.

Migration flows can suddenly change due to a shift in migration policy regimes. In the

Dominican Republic, the restrictive migration policies of Dictator Rafael Leónidas Trujillo, who ruled the country from 1930 to 1961, prevented any significant migration to the U.S. After Trujillo's death, Dominican migration began to rise at a gradual, but explosive growth. Motivated first by government policies that actively encouraged migration to the U.S., and later by economic stagnation that led to negative income growth between the late 1970s and the early 1990s, Dominican migration to the U.S. grew from 83,552 in the 1960s to 139,249 in the 1970s, 221,552 in the 1980s and 359,818 in the 1990s [see Hernandez and Rivera-Batiz (2004)].

Similarly, part of the explanation behind the outburst of migration flows in the 1980s and 1990s was the elimination of emigration restrictions in communist countries as a result of the break-up of the Soviet Union. Initially, some of these flows were massive and motivated by the migration of ethnic groups back to countries where they –or their ancestors—had been located before borders were closed. This includes 620,000 German ethnics located in the former Soviet Union, Poland and Romania, and 300,000 Bulgarians of Turkish origin who returned to Turkey. Over time, these flows have disappeared and more complex labor movements have developed, whether in response to economic forces or because of civil strife in the countries of origin. There has been persistent emigration from some of the East and Central European countries to OECD countries (Polish workers to Germany and Albanians to Italy). But there is also substantial interregional migration. In the Czech Republic, for example, there are tens of thousands of migrants from the Ukraine and the Slovak Republic while in Hungary, tens of thousands of workers have migrated from Romania and the former Yugoslavia.

The Determinants of Migration Policies

Migration policies are essential in understanding migration flows. But what factors influence

migration policies? As has been documented so far, there is a great diversity in the migration policies of different countries. Even within a country, migration policies shift widely over time. Table 6 shows the flows of permanent immigrants admitted by the United States since 1890. The migration rises at first, it then collapses in the 1930s and 1940s and then it gradually rises again, booming since the 1980s. What explains these wide swings?

[Table 6 about here]

The literature on the determinants of migration policies follows a growing literature in political economy that seeks to answer the question of how the policies of a country are generated through the interaction of economic, political and social forces. Figure 4 shows a general framework that can be utilized to model the determinants of immigration policy [see Mayda and Patel (2006)]. There are two sides to the process. First are individual and societal attitudes and opinions towards immigrants. These attitudes may be based on economic forces. For instance, if immigration reduces wages and raises the profits of employers and owners of capital, then persons who own firms or farms or own relatively large amounts of capital will be in favor of immigration but those who do not have wealth and only have their labor will be against immigration [see Benhabib (1996)]. But if the distribution of capital in a country is highly concentrated, with a great part of the workforce laboring at low wages, then there may be very few persons supporting immigration and many opposing it. If immigration policy is determined by influence of voters, immigration policy restrictions may be high. This force may be magnified if the immigrants are unskilled since in this case the immigrants may be competing with the poor masses of the country, generating stronger opposition and cries for restrictions.

[Figure 4 about here]

An example of the operation of these forces on immigration policy is that of the United States in the late nineteenth century and early twentieth century [see Timmer and Williamson, (1996)]. During the period of 1860 to 1930, the United States moved from being a nation of essentially no immigration restrictions to one of substantial restrictions. Throughout the time period, mass migration occurred into the country, but the rising immigration restrictions did set the stage for the sharp drop in the number of immigrants in the 1930s. According to Hatton and Williamson (2005), it was the growing perception that immigrants were restricting the progress of the native masses of low-income, unskilled workers that explains the rise of immigration restrictions. They conclude [Hatton and Williamson (2005), p. 179] that there is "strong support for the hypothesis that rising inequality in countries with high levels of immigration can help account for the globalization backlash that started in the late nineteenth century and became so powerful in the interwar period. New World governments acted to defend the economic position of unskilled labor, and thus gradually moved to insulate themselves from global market forces by restricting immigration. Still, immigration restrictions came late in the century, partly because labor absorption rates remained high until late in the century and perhaps also because unskilled workers did not have a political voice until late in the century…Economic forces matter for immigration policy, but so do the political institutions with which those forces interact."

There is also additional evidence from research studying the determinants of the immigration attitudes of natives in recipient countries. Most of these studies do confirm the important role that economic forces (unemployment, education, etc.) have in affecting the opinions of individuals towards immigration [see Gang and Rivera-Batiz (1994). Gang, Rivera-Batiz and Yun (1999, 2002), Scheve and Slaughter (2001), and Mayda (2005, 2006)].

Political processes often do not reflect individual preferences but the power of specific

groups in society to lobby the government to their advantage. In the case of immigration, for example, the agricultural lobby in the United States is extremely powerful and it has heavily influenced immigration policies. Throughout the years, this lobby has ensured that a supply of farm workers is available to the industry. In fact, labor shortages in general, through their devastating economic impact on various industries, represent one of the most influential forces moving countries to relax their immigration policies, especially those regarding temporary labor migration. It was the accelerated economic recovery in Europe after the Second World War that generated labor shortages and led to the massive guest worker programs of the 1960s.

Perhaps unfortunately, economic forces are not the only ones affecting attitudes towards immigrants. Xenophobia and bias against foreigners can have a major influence on immigration policies. In a sense, as immigration flows grow, anti-immigrant sentiments grow as well. As the stock of foreign migrants rises, cultural clashes and ethnic and racial conflicts may emerge that give rise to anti-foreigner attitudes. Often, those feelings are aggravated by conditions of social and economic distress in the recipient countries. The immigrants are an easy target to blame for the deterioration of local economic conditions that may in fact have nothing to do with the immigrants [see Gang and Rivera-Batiz (1994) and Gang, Rivera-Batiz and Yun (2002)].

The impact of individual and social preferences towards immigrants may influence the extent to which a country uses temporary versus permanent migration. Countries where the population has fears about the absorption of large numbers of immigrants may prefer temporary migration. The naturalization of immigrants and their children is also a policy variable. And in countries where immigrants are permanent and allowed to naturalize, the growth of a block of second-generation immigrants may itself influence immigration policies [see Ortega (2005)].

The impact that individual and societal attitudes towards immigrants can have on

immigration policies is filtered through the state, which is the one in charge of deciding and implementing policy changes. In authoritarian regimes, popular sentiments towards or against immigration may be overruled by the ruling powers. Even in democratic regimes, the legislative processes may be such that immigration policy reform can be stalled for years. In this context, the role of international relations and international affairs on domestic policymaking is also significant. Moves that secure greater economic integration among countries may also lead to the relaxation of migration restrictions among participating countries. In the European Community, moves towards economic integration have been accompanied by the liberalization of intra-European migration flows. Among the six founding members of the EU, a relatively free flow of labor has existed since 1968, but the Single Market Program led to greater integration of labor laws after 1993, stimulating intra-European migration. Evidence that intra-EU labor flows have increased since the early 1990s attest to the significance of this effect [see Coehlo (2007)].

B. The Economic Determinants of Migration Flows

There is a vast literature examining the determinants of migration flows. At the theory level, the classical economic model of the decision to migrate was formalized by Sjaastad (1962) and has been extended in a number of directions [see, for example, Lucas (1985) and Borjas (1989)]. In the economic approach, the decision to migrate is seen as an investment decision that depends on individual assessments of the net balance of the present and future costs and benefits of migration. The benefits are generally in the form of higher wages in the destination country, higher likelihood of employment, improved occupational possibilities, etc. The costs involve the sacrifice of wages at home (the foregone earnings when the individual migrates), transportation costs, etc. The larger the net benefits of migrating, the more likely the person will wish to move.

Note that this framework can incorporate the economic as well as the non-economic costs and benefits of migration. For instance, the psychological costs of leaving family members at home could be considered as part of the costs of migration. Similarly, for those who are unable to obtain legal migration documents, the cost of immigration restrictions may be in the form of not only the monetary costs of entering the country without documents (the payments to the smugglers) but also the psychic costs of illegally entering and staying in the recipient country without being detected, costs that may be prohibitively high for many.

Overall, the evidence on the importance of economic factors in motivating migration flows is extensive. Both documented and undocumented migration flows have been found to be strongly correlated to the relative economic conditions in recipient and source countries [see Adams (1993) Hanson and Spillimbergo (1999) Drinkwater (2003), Castaldo et. al. (2005)]. However, despite the widespread support for the hypothesis that increased income differentials between recipient and source countries stimulates migration, there is also ample support for the view that this connection does not always work and may actually hold in reverse [see Massey (1988), Hatton and Williamson (1998), Stalker (2000) and Waddington and Sabates-Wheeler (2003)]. For instance, in recent research seeking to determine the impact of differences in income per-capita on migration flows in the world, Hatton and Williamson (2005, p. 240) find that in sub-Saharan Africa, increases in income at home *increase* migration: "for a typical West European country, a ten percent rise in GDP per capita (holding education constant) reduces migration to the US by 12.6 percent… A ten percent increase in income reduces migration from the typical East Asian country by 4.3 percent and that from the typical South American country by 3.7 percent…For the typical African country, however, a ten percent rise in income per capita *increases* migration to the US by 0.3 percent." What explains this paradoxical result?

The evidence suggests that the relationship between income per-capita in source countries and emigration has an inverted-U shape, as depicted in Figure 5. For poor countries, as income rises, migration actually *increases.* But as the wealth of a country grows, at some point, further increases in income per-capita actually reduce emigration. In Figure 5, an increase in the per-capita income of a poor country (defined by point A) would stimulate migration, while an equivalent increase in a richer country (defined by point B) would reduce migration.

[Figure 5 about here]

One explanation for this behavior is the fact that, at low levels of income per-capita, a large part of the population just simply cannot afford the monetary costs of migrating. However, as per-capita income rises, this allows some people to save enough to pay for the transport and other costs of migration, thus increasing migration flows [see Hatton and Williamson (2005)].

An additional explanation is that the massive structural changes occurring in the early industrialization of an economy (the shift from agriculture to industry and services, from urban to rural areas, etc.) leads to a dislocation of the population that fosters international migration.[2] As the economic development process matures, however, these changes diminish and migration declines. As Massey (2006, p. 11) notes: "The poorest nations in the world do not send out the most emigrants, and within migrant-sending nations, the poorest regions and communities are not the ones producing the most migrants. Whether in Mexico or China, international migrants generally come from regions and communities that are in the throes of rapid economic

[2] The impact of structural economic changes on labor migration flows is not circumscribed to sending nations. Economic forces in recipient nations can be the motor behind more permissive immigration policies. Some refer to this as *demand-pull migration*. Whether one speaks of highly unskilled jobs in agriculture or in service sectors, software engineers in high-tech sectors, or managers and engineers in oil industries, the fact is that destination countries around the world face rising demands for workers in specific sectors of the economy. Local supply of labor for those sectors may not be available, especially in the short-run. As a result, the recipient countries allow employers to recruit (pull) migrant labor to satisfy the unfilled demand for labor. Depending on the economy being considered, there may be sectors that have a persistent need to import foreign workers. This has been the case of agriculture and other low-wage service sectors in the U.S. economy [see Piore (1979)].

development… It is the structural transformation of societies brought about by the creation and expansion of markets that produces the bulk of the world's migrants, both at present and in the past." How structural changes in an economy explain migration flows has been postulated by sociologists following the *world systems theory* [see Portes and Walton 1981; and Sassen 1988].

A third hypothesis for the paradoxical rise of migration flows as income increases in source country economies is based on *relative deprivation theory*. It suggests that, as inequality rises in the early years of economic development (a trend first noted by economist Simon Kuznets), those who become relatively poor will find themselves increasingly dissatisfied with their relative standing in the community. This will stimulate them to emigrate in order to improve their relative standard of living [see Stark and Taylor (1989, 1991)].

Despite its powerful role in explaining migration flows, another problem of using a simple economic approach based on income differences across countries is that it cannot explain temporary migration. If there is a significant and persistent wage and employment differential between origin and destination regions, why do so many migrants wish to stay in the destination only for short periods of time?

One explanation is offered by the so-called new economics of labor migration [see Stark and Bloom (1985)]. In this approach, it is understood that migration decisions are often made by families and households, not individuals. As such, families may see the migration of some household members as part of their savings and investment decisions. The idea is that, if low-income households encounter capital market imperfections at home, which exclude them from access to the financing of investments in housing, durable goods, or in self-employed businesses, migration abroad may lead to the accumulation of remittances that can then be used to finance

these purchases and investments. Migration becomes a short-term activity needed by households to raise funds in the absence of local financing.

C. Demographics and International Migration

Migrants tend to be relatively younger than both the population in the sending country and in the recipient economy [McKenzie (2006)]. The economic approach explains this by noting that the younger the worker, the longer the expected years of labor force participation that the migrant can have in the destination, and the higher the expected returns from migration will be. But this point also suggests that the demographic composition of a country can have a major impact on its migration patterns. If younger people tend to have a stronger propensity to migrate, then countries that have a higher proportion of young people will also have greater migration.

Indeed, one of the reasons for the mass migration surge originating in developing countries in recent years is the fact that many of these countries have had a sharply rising population of young people. One of the main explanations for this population explosion is referred to as the theory of the *demographic transition*. The theory starts with a poor country that has high birth and death rates, which keep the population growth at low levels. The theory then suggests that, as countries develop economically, one of the first effects of development is a sharp drop in death rates, especially infant mortality. These changes occur because of improvements in health, nutrition, etc. At the same time, birth rates are sustained at high levels because fertility changes in most economies occur slowly and gradually, in response to long-run economic development. The consequence is that, as economies develop, they face a growing excess of birth rates relative to death rates, which displays itself in the form of a baby boom. But 15 to 20 years later, the baby boom will turn into a flood of workers entering the labor market.

Out of this expanding young cohort one finds many of the mass migration outflows from countries. There are two reasons for this: with limited demand for labor, the increased supply of workers may lead to rising unemployment. Secondly, with a larger young cohort of workers, the proportion of the population considering emigration will rise.

The case of the Middle East and North Africa (MENA) presents an example of the operation of the demographic transition and its consequences. These countries have faced sharply lower death rates but relatively high birth rates, which have led to a population explosion. Figure 6 shows the sharply higher population growth rates in the region between 1970 and 2000 as well as the forecasts for 2000-2015, which suggest the higher population growth rates in the region relative to the rest of the world will continue. The overall unemployment rate in the MENA region was 20 percent in 2004 (17.5 percent excluding Iraq), with higher rates in Algeria, Morocco, and Yemen, among others. The demographics explain to a significant extent the flood of migrants from MENA countries in the last decades. [3]

[Figure 6 about here]

Demographic forces may push workers in developing countries to migrate. But there are also demographic changes in recipient countries that may pull migrants into high-income countries today. The theory of the demographic transition suggests that, over time, as countries increase their per-capita income and become more-developed countries, birth rates will eventually drop. Population growth rates will decline and may become negative.

[3] It is worth mentioning that migration flows themselves may have an impact on a country's demographics. Migration is a process that involves long-distance moves that often disrupt families and can serve to reduce fertility rates. Labor force participation rates of both men and women rise with migration and this has also been found to have a negative impact on fertility rates. And cultural contacts with populations in high-income countries, populations that have had a long history of low birth rates and prefer small family sizes-- may also change attitudes towards family size among migrants. This means that increased migration flows may themselves accelerate the demographic transition by reducing birth rates in source countries. As an example, some recent evidence suggests that reduced fertility in a number of MENA countries, such as Morocco and Turkey, may indeed be connected to the massive migration flows in those countries [see Fargues (2006)].

In many high-income countries, as a matter of fact, population growth has been declining in recent years and in some the growth has been negative. Figure 6 displays the polar opposite of the demographic explosion in MENA countries by presenting the population implosion in the European Union, where the population growth rate was substantially below the world average in the period of 1970 to 2000 and current forecasts are that it will be negative for the period of 2000-2015. Indeed, the average fertility rate (number of children ever born to women) in Europe among native, non-immigrant populations was 1.4 children in 2005, but the number of children needed to keep the population constant is 2.0. Already, the population growth of the non-migrant native population (births minus deaths of the non-immigrant population) is negative in a number of European countries, including Germany, Italy, the Czech Republic, Hungary, and Romania [see Muenz (2007)]. A similar situation applies in other high-income economies, such as Japan.

Holding other things constant, the aging of a population has two significant economic effects. First, as the labor force declines and labor shortages emerge, a number of relatively labor-intensive sectors may contract. For instance, labor-intensive manufacturing sectors that compete internationally may just have to disappear in the face of mounting labor costs. Service sectors may survive but with significantly higher real costs for local consumers. Economic growth may therefore slow-down as a country's labor force declines as a fraction of the total population. A second effect of slow population growth is that the fiscal burden imposed by the aging population rises. Demographers calculate the *dependency rate* as the ratio of the population that is not economically active to the total population in the country. As the dependency rate rises in countries with aging populations, the burden of social safety nets for the population that is working rises sharply. The fiscal resources to finance social security and health care insurance disbursements becomes a rising portion of government expenditures requiring

higher taxes that, at the same time, may discourage the labor supply of those who are working in the population [see Kotlikoff and Burns (2004)]. In this situation, strong incentives are placed on governments suffering from population collapse to liberalize their immigration policies with the goal of replenishing the labor force.[4]

D. Social and Political Conflicts, Refugees and Asylum-Seekers

International migration flows have at periods been heavily influenced by refugees and asylum-seekers seeking safety from political persecution, civil wars, armed conflicts, ethnic and racial violence, and natural disasters. Compared to the 1960s and 1970s, recent decades have seen a surge of refugees and asylum-seekers. Table 7 shows estimates made by the United Nations of the changes in the world number of refugees since 1960. From 2 to 3 million in the 1960s and 1970s, the numbers rise to a peak of over 18 million in the late 1980s and 1990s, declining to about 14 million in 2005, when refugees and asylum-seekers accounted for 7.1 percent of all international migrants in the world. Where do these migrants come from? The UN figures estimate that between 1994 to 2004, 40 percent of refugees and asylum-seekers originated in Asia or the Middle East and North Africa (including Afghanistan, Iraq and Turkey), 25 percent from East and Central Europe (the former Yugoslavia) and 20 percent from Africa, with the rest migrating from Latin America and the Caribbean [see Hatton and Williamson (2005), ch. 13].

[Table 7 about here]

Refugees and asylum-seekers dominate some migration flows. Consider migration from the Caribbean to the United States, which took off on a massive scale in the 1960s. Cuban

[4] Note, however, that immigration may have an ambiguous effect on fiscal balances. As will be discussed later, working-age immigrants raise the workforce and increase tax revenues, but if they have children, they will be increasing the country's dependency rate as well. The rising educational expenses of children of immigrants may offset the tax revenue benefit.

migration had already started to grow in the 1950s, as closer trade, investment and economic relations between the U.S. and Cuba had risen in that decade. But it was the social upheaval of the Cuban revolution that led to a massive exodus that raised the number of Cubans entering the U.S. from 73,221 in the 1950s to 202,030 in the 1960s, and 256,497 in the 1970s. These flows have abated since that time, but continue to be substantial even to the present day. The rise of Central and South American migration to the United States in recent decades has also been marked by social and economic upheavals. To some extent or another, from El Salvador and Guatemala to Colombia and Peru, persistent insurgencies, social conflicts or civil wars have plagued countries in the region at some point since the late 1970s.

E. Geography and Proximity in International Migration Flows

Most migration flows occur among geographically-close, often neighboring, countries. This is the case of the United States, where the largest fraction of immigrants originates in Mexico, Central America and the Caribbean. In Western Europe, international migrants move from Eastern and Central Europe as well as from the Middle East and North Africa. In South Asia, migrants move from Pakistan and Bangladesh to India, and from the Philippines, Indonesia and other countries to Japan. And in Africa, most of the countries sending migrants to South Africa are from neighboring countries, including Lesotho, Swaziland, Mozambique, and Zimbabwe.

The role of distance and proximity in migration movements is emphasized by the so-called *gravity theory of migration flows* [see Lorry (1966) and Karemera and Oguledo (2000)]. Based on the renowned Newtonian model originating in physics, the theory argues that the magnitude of labor flows between any two countries is proportionally related to the population or

labor force of the two countries (their 'mass') and the distance between them. The distance can be geographical distance as well as cultural distance. That is, countries with the same language and culture will tend to have greater flows, holding everything else constant.

The gravity model has been tested empirically and its hypotheses are supported by the evidence from a wide array of countries. Hatton and Williamson (2004, p. 10), for example, find that in the case of migration between Latin America and the United States, "an additional thousand miles between sending country and the US. reduces the immigration rate by 21 percent. Whether the country is landlocked also has a large negative effect... Even more important is whether the source country is English speaking, a factor which increases the number of immigrants from the sending country almost three fold."

F. Networks and Trans-nationalism

Studies of the determinants of international migration from a country X to another country Y find that one of the major factors accounting for such flows at any given time is the stock of immigrants from country X already residing in country Y. One approach that explains this result is *network or chain migration theory* [see Piore (1979), Rivera-Batiz (1986), Massey, Alarcon, Durand and Gonzalez (1987) and Bauer, Gang and Epstein (2000)]. This theory suggests that some migration flows are self-sustaining. According to the theory, an initial, contained migration flow --a movement that in fact may have been random-- may lead to mass migration eventually.

The explanation lies in the presence of imperfect information about job opportunities in the destination region. The absence of that information may prevent migrants from moving. But once a few migrants have made it to the host location, they can monitor more carefully

employment vacancies and inform members of their home communities about those opportunities. This leads to greater flows from the same origin region to the same destination region. Furthermore, as some of the migrants and their families accumulate wealth, this demonstrates to other migrants the success of the migration process, further increasing migration from the origin to destination. An intimate network thus develops between the sending and recipient communities, effectively reducing the costs of moving across the border, leading to an acceleration of the migration process.

The presence of close ties between migrant communities in the recipient countries and home communities often lead to substantial movements of people from one community to the other. Circular migration occurs when migrants move back and forth between source and destination countries. In fact, families or households may become transnational in that some members will be abroad and others at home. The result is that the migrants become attached economically, socially and culturally to both host and sending countries. This stimulates migration by institutionalizing it [see, for example, Georges (1990) and Cordero-Guzman, Smith and Grosfoguel (2001) and Rivera-Batiz (2004)].

4. Migrants and their Socioeconomic Situation

What are the economic consequences of mass migration? What changes in the source and destinations countries are generated by migrants? In analyzing these issues, one can separate the impacts on: the migrants themselves, the remaining population in the source country, and the population in the recipient economy. The following sections examine how migration affects these three groups. This section begins with a survey of the impacts on the migrants.

A large body of research has now accumulated studying the labor market outcomes of immigrants (see, for example, the collection of research in Zimmermann and Constant, 2004, as well as Borjas 1999, Borjas and Katz, 2005, and Hanson, 2006). This section summarizes the available research. Because of data availability, most of the studies are about migrants moving to high-income countries.

The economic returns to migrating are substantial for most workers. As an example, Table 8 shows the average wage received by Mexican workers aged 23 to 27 in Mexico and the United States (adjusted for differences in the cost of living between the two countries). As can be seen, the wages in the United States vary from close to 6 times the equivalent wages in Mexico for workers with 4 or less years of schooling to 2.5 times for workers with 16 or more years of schooling. Even after discounting any transportation costs (including the costs of the smugglers (coyotes) for undocumented workers), the gains are substantial.

[Table 8 about here]

Notwithstanding the enormous economic gains obtained by most migrants relative to their standard of living at home, a second question to consider is how the migrants fare relative to the non-immigrants in the recipient countries. This is an essential issue to determine since it responds to the essential question of whether immigrants can stagnate economically in the host countries. Policymakers in recipient countries may be particularly concerned with the extent to which immigrants are able to assimilate into the labor market, thus avoiding the possibility of becoming an economic underclass.

There are a number of forces that can explain the existence of depressed labor market outcomes of immigrants in host countries. One of them is the duration of stay of the migrants in the country. The research of Chiswick (1978, 2000) and Duleep and Regets (2000) has suggested

that immigrants face an initial shortfall or dip in their labor market performance after they arrive in a recipient country. This dip is the result of the adjustment costs that immigrants suffer as they enter the country. With limited knowledge about labor market institutions in host countries --and a compelling need to obtain employment-- recent migrants may accept jobs with wage offers lower than those they would otherwise accept given their skills. As their stay in the recipient country passes and they are able to search for better-paying jobs, earnings will rise and they will be paid wages that correspond more closely to their skill endowments. Some researchers even suggest that the labor market performance of immigrants may eventually exceed that of non-immigrants. The best-known hypothesis for this is that emigrants tend to be positively selected because in order to compensate for the substantial costs of migration only those who have the strongest drive and motivation –and the expectations of great rewards—will actually undertake the migration process (see Chiswick, 1978, 2000).

The economic outcomes of migrants are also dependent on their skills, particularly their educational attainment. The relative success of migrant flows in specific countries may be tied to the schooling of the migrants [Rivera-Batiz, 2007]. But what determines the skill composition of a migration flow? Besides host country policies, one hypothesis (referred in the literature as the *Roy model*) is that the inequality in the distribution of income in the source and destination countries is essential in determining whether there are incentives for skilled or unskilled migrants to migrate. For instance, the more unequal the income distribution in the origin area as compared to the destination, the more likely that the highly-skilled will be more richly-rewarded in the source country relative to the destination and the lower the incentives for the highly skilled to emigrate relative to the less skilled. On the other hand, if employers in the destination region cannot assess well the skills of the migrants (such as when different languages are involved,

different educational systems, etc.), they may offer lower wages to the highly-skilled migrants, whereas employers in the source country would be able to assess more accurately the potential migrants' skills and pay them wages more consonant with their skills. The result is a reduction in the incentive to migrate of the highly-skilled relative to the unskilled (Stark and Taylor, 1991).

Box 2
The Economic Status of Migrants in Europe

In October 27, 2005 a series of riots developed in Parisian suburbs and quickly spread to other areas of France and neighboring countries. The riots, which continued through early November 2005 as well, were sparked by the death of two teenagers, Zyed Benna and Bouna Traore, who were chased by police and died of electrical shock in a power station where they tried to hide. The teenagers lived in a working class suburb in Paris consisting of mostly immigrant, North African populations, populations heavily involved in the protests and riots.

The suburban areas of concentrated poverty where the riots emerged were created in the 1970s in the form of low-income housing projects. These became known as les *banlieues,* a word that evokes the large, suburban high-rise buildings that house a population largely excluded from mainstream French society. Over time, immigrants and their descendants, particularly Algerian, Moroccan and Turkish, came to dominate the populations of some of these poor, suburban neighborhoods. The rioters were mostly youth, either born outside Europe or the children of immigrants. Their unemployment rates are high and their economic progress low.

Is this example typical of the economic status of immigrants in Europe? Table 1 shows labor force participation rates and unemployment rates for immigrants and non-immigrants in selected European countries in 2001. As can be seen, immigrants generally have lower rates of labor force participation as well as higher unemployment rates. In some cases the gaps are substantial. For instance, in Belgium, immigrants have an unemployment rate of 15.4 percent, as compared to 5.8 percent among non-immigrants. In France, the unemployment rate among immigrants was 20.5 while among nationals it was 10.6 percent. The relatively poor labor market situation of migrants in Europe when compared to non-immigrants is worse among young populations. The unemployment among young immigrants in some countries is exorbitant, equal to over 40 percent in Denmark and over 30 percent in France.

The relatively poor labor market outcomes of immigrants relative to natives are partly related to education [Schmidt (1997)]. In France, as much as 66.1 percent of all foreign-born adults have less than a 9th grade education. In Belgium, the figure is 53.1%, and in Germany it is 47.7%. Furthermore, as time in the host country passes, the labor market outcomes of migrants tend to become closer to those of natives [see Peracchi and Depalo (2006)].

Box 2 Table 1
Relative Labor Market Status of Immigrants in Europe
Persons 16 years of age or older

Country	In the Labor Force (%)		Unemployment Rate (%)	
	Immigrants	Nationals	Immigrants	Nationals
Belgium	65.1%	56.7%	5.8%	15.4%
Denmark	80.2	62.1	4.3	9.7
Finland	77.0	71.7	10.6	27.1
France	69.2	62.6	8.9	20.5
Germany	71.8	64.2	7.5	12.6
Spain	64.1	72.3	14.6	15.1
United Kingdom	75.6	65.7	5.0	8.9

Source: OECD (2003).

5. The Consequences of International Migration: Host Countries

The economic consequences of migration in the host countries have been one of the most debated topics in the area of international migration. There is now a wide array of academic studies examining the consequences of international migration in both host and source countries [see, for instance, the survey by Borjas (1999)]. This literature focuses on the distributional effects of immigration, particularly the labor market consequences, as well as the effects of the migrants on the public sector.

A. The Labor Market Effects of Immigration

The simplest theoretical framework within which one can examine the effects of immigration is one that focuses on the demand for and the supply of labor as determinants of employment and

wage opportunities. In this model, an inflow of immigrants raises the supply of labor and thus tends to generate a surplus of workers in the labor market that pushes down wages and reduces the employment opportunities of natives. As a result, the immigration reduces the economic welfare (the standard of living) of the non-immigrants in the recipient economy.

Do the results of this model hold? Two types of empirical studies have been undertaken to examine the impact of immigration on labor markets in recipient countries. First, there are spatial correlations that have looked at whether regions of high immigration are also regions where wage increases have slowed-down, holding other things constant. Probably the best-known of these studies is Card (1990), who examined the impact of the 1980 Mariel Cuban immigrant influx on wages and employment in the Miami area. Card found that, despite the substantial inflow of workers, the labor market trends in Miami between 1980 and 1985 were not different from those in other cities that did not experience the influx.

A second type of study simulates the impact of immigration in a labor market by estimating how labor demand and supply in that market are affected, and showing the consequences on wages and unemployment. The research in this area includes Altonji and Card, 1991; Rivera-Batiz and Sechzer, 1991; Gang and Rivera-Batiz, 1994a, Borjas, Freeman and Katz (1997), Borjas (1999) and Borjas (2006)]. The results of these studies are mixed, but the predominance of the evidence is that the impact of immigrants on the overall wages and employment of natives is small. For example, Rivera-Batiz and Sechzer (1991), in their simulation of Mexican migration to the U.S., find that a 10 percent increase in the U.S. labor force owing to an inflow of Mexican immigrants would have the strongest negative effect on the wages of Mexican workers already in the country; but even this impact is small, equal to a less than 1 percent drop in wages.

What explains this lack of impact? Partly, the explanation is that immigrants generate their own demand for labor. As immigrants place downward pressure on wages, this makes employment in labor-intensive sectors, such as agriculture or textiles, more profitable. As a result, employers will have an incentive to increase their employment of labor-intensive products (agricultural production and textile production rises), which raises the demand for labor. This demand for labor places upwards pressure on wages and increase employment opportunities for domestic workers as well. In international economics, this situation, where an influx of labor leads to no change in wages, is called the Rybczyinski effect, in the name of the economist that first postulated it [see Bhagwati, Panagariya and Srinivasan (1998) and Rivera-Batiz (1983)].

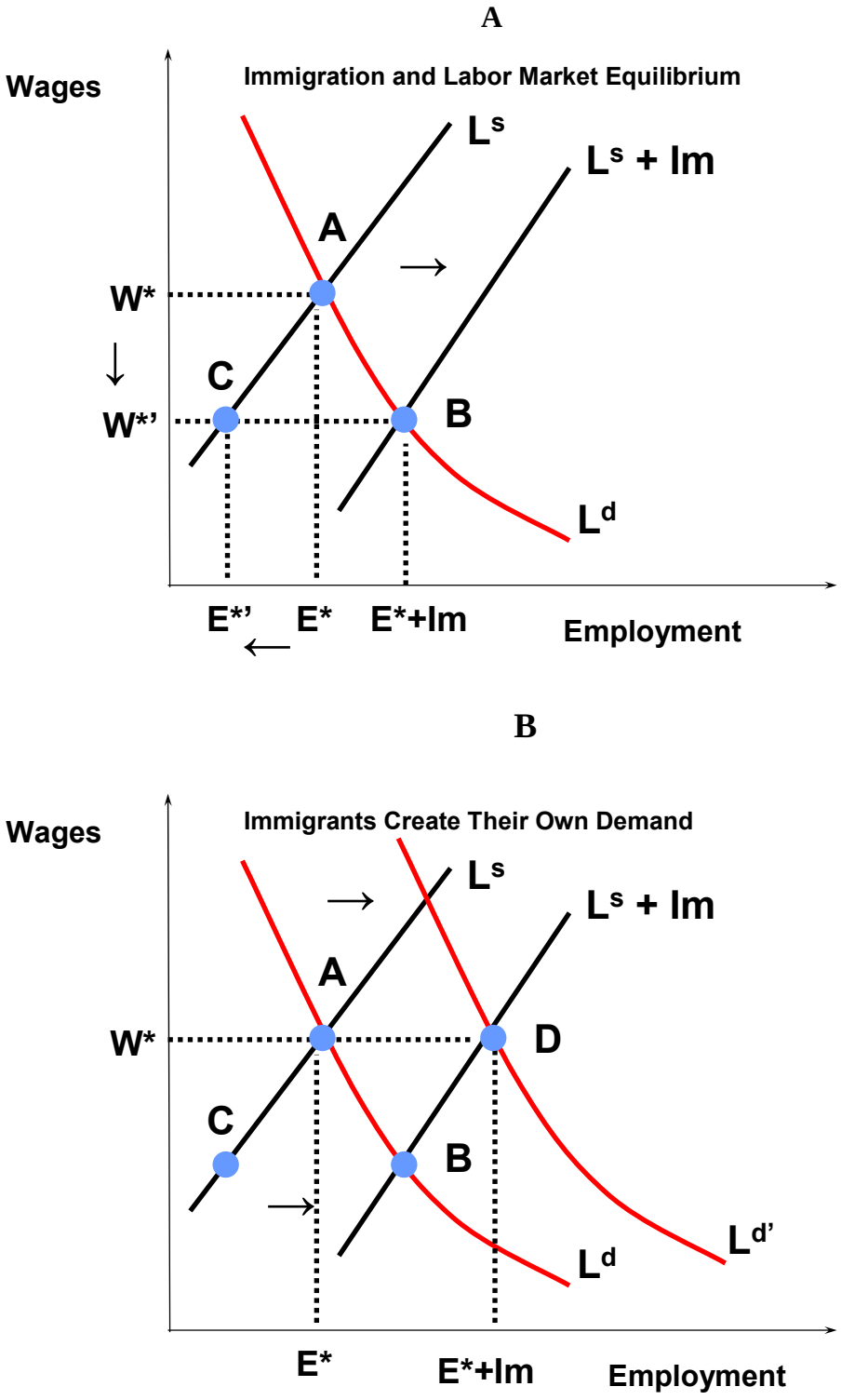
Box 3. The Simple Analytics of Immigration

The effects of immigration can be depicted diagrammatically. Box 3 Figure 1 shows first a labor demand curve represented by L^D, which is downward-sloping and reflects the fact that as wages rise, employers will reduce the number of workers they hire. The diagram also shows a labor supply curve, depicted by L^s, which is upward-sloping and reflects the fact that, as wages increase, domestic workers will increase their labor supply, whether because labor force participation increases or through longer hours of work each day or week. The labor market is in equilibrium when labor demand and supply are equal, which occurs at point E, with domestic wages given by W* and domestic employment E*.

In this model, immigration increases the labor supply in the economy by supplementing the domestic labor supply by Im, which represents the number of workers (or hours of work) that the immigrants bring to the host country labor market. As the diagram shows, the impact of the immigrants is to reduce the labor market equilibrium wage, from W* to W*'. This drop in wages also discourages domestic workers from seeking employment and their employment also drops from E* to E*'.

Box 3 Figure 1 shows the effects of immigration when the immigrants act to generate employment in the host country, either by reviving decaying industries, serving as a magnet for new industries or by providing their own investment and employment opportunities through self-employment. In this case, the immigrants still raise domestic labor supply, but they also lead to an increase in labor demand, from L^D to $L^{D'}$. As shown in the diagram, in this situation, it is possible for immigration to have no impact on the wages or employment of natives (which remain at W* and E*).

Box 3 Figure 1. The Effects of Immigration in a Simple Labor Demand and Supply Model



A second explanation for the lack of empirical evidence showing a significant impact of immigration on wages lies in the fact that immigrants are concentrated in very specific sectors of the labor market that do not compete with the native-born (Rivera-Batiz, 1998). As Cornelius and Marcelli (1998, p. 126) state in relation to California: "Immigrants and native-born workers tend to be channeled (or channel themselves) into quite distinct segments of the California labor market. Native-born workers seldom compete directly with immigrants for low-skilled production jobs in firms and industries that have come to be dominated by immigrant workers. If there is job competition, it occurs between recently-arrived and long-settled immigrant residents."

This point suggests that immigrants may actually have a positive impact on the labor market outcomes of natives. This issue is examined in the next section

B. The Effects of Skilled versus Unskilled Immigration

When one considers the impact of immigration in a context where immigrants and natives belong to different segments of the labor market, there is a strong possibility that immigration can have a positive impact on the wages and employment opportunities of natives. Suppose, for example, that the immigration is composed predominantly of unskilled workers while the native workers are predominantly skilled. What is the impact of immigration in this context?

Unskilled migrants tend to raise the wages and employment opportunities of workers that are *complementary* to them (such as skilled workers) but may reduce the wages and employment of workers that are *substitutes* or compete with them in the same labor market (i.e. other unskilled workers). If skilled and unskilled workers are complements, then an influx of unskilled workers will actually raise the demand for skilled workers. If the skilled workers are natives, this

means that immigration will increase the wages and employment opportunities of natives. In other words, immigration will raise the economic welfare of the nationals.

Evidence that immigrants are complements with natives in the case of the United States has been provided recently by Peri (2006) using data for immigration to California. The paper (Peri, 2006, p. 19) concludes: "Our median estimates reveal that these complementarities of immigrants spurred wage growth of natives, once physical capital adjusted, by about 4% in fourteen years. These average wage gains for natives were distributed as small wage changes (0.2 to 0.7%) for high school dropouts and significant wage gains up to 6.7% for workers with at least a high school degree" [see also Ottaviano and Peri (2005, 2006)].

C. The Effects of Immigrants on Public Finances

A second major area of concern regarding the impact of immigration in host countries has involved the effects on government expenditures and revenues. Those critical of lax immigration policies have argued that immigrants raise government expenditures by more that they do tax revenues, causing natives to bear an increasing tax burden. Others, however, argue that the opposite holds, with immigrants actually alleviating the tax burden of the native population.

The evidence on this issue is, once again, mixed, with some studies finding that immigrants aggravate the fiscal situation of governments in recipient countries while other researchers concluding that the impact is positive [see, for example,Smith and Edmonston (1997), Gustman and Steinmeier (2000), and DeVoretz (2002)]. There are a number of reasons for the complexity in the results of these studies.

The impact of immigrants on government public finances depends on the relative significance of a wide array of effects. On the revenue side, immigrants pay taxes, but the

magnitude of these taxes depends on the tax system in the host country, including the type of taxes used, the average and marginal tax rates, and the progressivity of the system, as well as the characteristics of the immigrants themselves (their skills, income, etc.). From the expenditure side, immigrants will be raising government expenditures, but the magnitude of the impact depends on the safety nets present in the country (the generosity of welfare or other public assistance programs and the participation and/or eligibility of immigrants to receive payments from those programs), as well as the cost of the services provided by the government (such as the cost of educating the children of immigrants or the cost of free public health services) and the usage of those services my immigrants. Different groups of immigrants, depending on their age, gender, marital status, location of residence, skills, income, regular versus irregular status, temporariness of their migration, etc. may have widely different effects on government finances.

One issue that becomes very clear is that the time horizon used to measure the impact of immigration on the public sector matters. Studies that focus on the short-run effects of immigration generally obtain negative (or more negative) impacts while studies that incorporate medium-run and long-tern effects of immigration generally obtain positive (or more positive) results. The reason is illustrated through the use of Figure 7. As shown on Figure 7-A, at the time of arrival, and for a number of years after that, immigrants are more likely to generate an excess of their government expenditures over the revenues they provide to the government (this excess, of course, would have to be filled by non-immigrants, which would face higher taxes). The main reason is because of the costs of educating the children of the immigrants. But in addition, as was noted earlier, recent immigrants have both lower wages and lower likelihood of employment and this reduces the taxes they generate. Now, as time passes, the wages received by immigrants will increase and, as their children age and complete their schooling, the net

impact of the immigrants on government finances will turn positive. Eventually, as workers retire, they may again constitute a drain on government resources, depending on their access to social security and other safety nets for senior citizens. Figure 7-B shows that in these conditions, immigrants will have a negative impact on the fiscal situation of the government in the short-run, but a positive impact in the medium and long-run.

[Figure 7 about here]

In order to weight short-run versus long-run effects, economists evaluating the fiscal effects of immigration make an assessment of the time profile of the costs and benefits of the immigrants, considering the fact that any future effects should be discounted relative to the present and that the long-run effects last for a longer period of time than the short-run effects. They refer to these calculations as the *net discounted value* of the contribution of immigrants to the fiscal situation of the government. Although the results vary depending on the assumptions made about the future, most studies find that the net discounted value of the fiscal impact of immigrants is positive. For instance, the U.S. National Academy of Sciences conducted a comprehensive study of the fiscal effects of immigration [Smith and Edmonston (1997)]. They found the short-run effects are significantly negative. For instance, the average household would have had to pay $166 to $226 more in taxes each year in the short-run as a result of a 10 percent increase in immigration. However, these short-run costs were balanced with net reductions in taxes in the future. The net discounted value of a 10 percent increase in immigration on the revenues versus expenditures induced by immigrants would be positive and equal to about $80,000 per native residing in the United States. Of course, this result is sensitive to assumptions and can increase or decrease substantially as one adjusts these assumptions.

In Canada, the net present discounted value of the net impact of an immigrant on the

revenues and expenditures of the government was also found to be positive and equal to $66,156 per immigrant [DeVoretz (2002)]. However, this contribution was found to vary by location, with a greater positive impact on Vancouver ($81,098) but a negative impact in Montreal ($1,686). In the United States as well, the net discounted value of the fiscal impact of immigrants varied by location (less positive in California).

D. The impact on the Economic Welfare of Natives

As has been examined in this section, the impact of immigration on the economic welfare of natives in the host country may be quite complex to identify. Immigration may have a negative short-run impact on the workers in the recipient economy (lower wages and employment) but this may be ameliorated or even compensated by a number of other forces. At the same time, if wages do go down, this will benefit employers and the owners of those firms in the economy, as their production and profits rise. This explains why sectors which employ immigrants in recipient countries constantly lobby for relaxed immigration restrictions. In addition, the impact on the public finance of the recipient country may be positive or negative as well.

Overall, given the variety of results obtained in assessing the impact of immigration in host countries, both in terms of the labor market and the fiscal effects, one can share economist George Borjas' conclusion about the U.S. that "after accounting for the impact of immigration on the productivity of native workers and firms and on the fiscal ledger sheet, immigration probably has a small net economic impact on the United States" [Borjas (1999), p. 126.].

6. The Impact of Emigration in the Source Countries

This section begins by examining the labor market effects of emigration on those left behind. Later sections look at other consequences of emigration, including the impact on remittances.

A. Labor Market Effects of Emigration

At the theory level, the analysis of the labor market consequences of emigration for the population left-behind in the source countries can go along lines similar to those followed by the discussion about the effects of immigration. Instead of examining an increase in the labor force, one could identify the opposite happening: a reduction in the domestic labor supply. As implied from the previous section, the direct impact of a reduced labor force in the source country would be to generate labor shortages and to increase wages. However, as was also noted before, there are a number of economic adjustments that can ameliorate or compensate the effects of the emigration. For instance, the higher wages might induce some local workers to increase their labor supply, thus softening the shortages of labor induced by the emigration.

The evidence suggests that the impact of emigration on home country labor markets may be substantial. In a recent paper, Mishra (2006) finds a significant impact of emigration on wages in Mexico. She concludes: “I find a strong and positive impact of the outflow of workers on wages in Mexico. A 10 percent decrease in the number of Mexican workers due to emigration in a skill group (defined by schooling and experience), increases the average wage in that skill group by about 4 percent. The estimates suggest that the outflow of Mexican workers to the United States between 1970 and 2000 has increased the wage of an average Mexican worker by about 8 percent.”

This impact means that workers left behind gain while employers using them lose. Is there any net impact from these distributional changes? In her paper, Mishra concludes that "the gain to the workers who have stayed behind is 5.9 percent of GDP and the loss to the owners of fixed factors is 6.4 percent of GDP." The net impact in the economic welfare of those left behind is, therefore, negative but comparatively small. On the other hand, there are other potential impacts of emigration, as discussed next

C. Remittances and the Impact of Emigration

One of the most visible impacts of the migrants on source countries is connected to the remittances that they send back home.

Table 9 presents the value of these remittances in 2005. That year, source countries in the world received $249 billion in remittances from their migrants abroad. But the real value of these remittances is greater since each dollar buys much more in most countries than in the U.S. Therefore, when one adjusts the $249 billion for differences in purchasing power, one obtains that the value of the remittances in 2005 was $677 billion. Most of these remittances are being received by developing countries. In fact, in 2005, developing nations received $605 billion worth of remittances. The regions receiving the most remittances were South Asia and East Asia.

[Table 9 about here]

Remittances have been growing exponentially since 1980. Developing countries received $50 billion in migrant remittances in 1980 (in 2005 international dollars), but by 2005 this had multiplied to over $600 billion. The significance of remittances in many developing countries can be seen by comparing the value of remittances with the value of the merchandise goods exported by the source countries. Table 9 shows this calculation. In India, for instance, migrant

remittances are equal to 26.2 percent of merchandise exports. In the Philippines, the comparable figure is close to 30 percent, in Egypt it is 40 percent, and in Lebanon, it is over 300 percent.

Remittances clearly constitute an improvement in the standard of living for family members who are recipients of such income. Recent evidence suggests that remittances are connected to lower poverty levels (see Acosta et. al., 2006, Adams, 2007). Some questions have been raised over the years as to the extent to which the remittances simply raise current consumption instead of stimulating investment and future economic growth (see, for example, Reichert, 1982). However, the fact is that a significant portion of so-called consumption spending consists of household investments in housing, automobiles and durable goods, whose long-term wealth-raising capacities are substantial; second, the use of remittances for community investment projects is not insignificant and also acts to stimulate local development; and, third, the multiplier effects of the increased consumption spending in generating local economic activity may be substantial (de la Garza and Lowell, 2002, Parrado, 2004, and Adams, 2007).

D. The Impact of Skilled Emigration and the Economics of the Brain Drain

The positive contribution of migrant remittances for economic development must be weighted against the potentially negative consequences of the migration flows. In countries where emigration leads to the loss of the most talented and skilled, the so-called brain drain, migration can have negative externalities [see Bhagwati (1979), Bhagwati and Rodriguez (1974)].

If the emigration of skilled labor is substantial and these workers are employed in local service sectors, the result can be acute shortages in the supply of essential services, from school teachers and nurses to professors and nurses. Note that the emigration of workers employed in sectors that produce exports and imports is not subject to these effects because local consumers

can import these products from abroad when the laborers leave the country. But when the workers are employed in service sectors that produce internationally-nontraded goods, the impact of emigration is more significant and potentially disastrous because domestic consumers can only obtain those services locally [see Rivera-Batiz (1982)]. If doctors and nurses emigrate, the supply of health services can collapse, resulting in higher prices and acute shortages. A brain drain can therefore reduce sharply the economic welfare of those left behind. Remittances may or may not offset these negative effects [Rivera-Batiz (1986) and Hanson (2005)].

The brain drain can have a number of additional effects. More specifically, in order to examine the long-standing effects of a brain drain, one needs to examine the impacts on long-run economic growth. What are the possible effects of the emigration of the skilled on a country's economic growth?

There is, first of all, a demographic effect. After all, the brain drain reduces population growth. The question is: how is population growth connected to long-run economic growth? This is the source of a long-standing controversy going back to Malthus. Mainstream economic analysis, as developed by Solow (1956), suggests that a drop in population growth leads to an economic expansion for those left behind because the excess physical capital left by the emigrants in the source country would be available to the workers left-behind, thus raising the average amount of capital per worker in the economy. Since capital per worker is directly related to income per-capita, emigration would then raise income per-capita in the source country.

There are a number of caveats to this story, however. First, demographers have argued that the emigration of workers from an economy has a deep, negative impact on savings and on the accumulation of physical capital. Emigration of working-age people tends to reduce the share of the population that is productively engaged. This means that the dependency rate in the

economy –the proportion of senior citizens and children in the population—rises, which tends to absorb resources that would otherwise be dedicated to the accumulation of capital and economic growth. A second phenomenon is that working-age people tend to have higher savings rates than other people. The reason is that they wish to accumulate funds for their later years, when they may retire. As emigrants move out of an economy, therefore, the savings rate may decline, thus reducing economic growth. These effects appear to be significant since the empirical evidence available suggests that the emigration of economically-active workers reduces economic growth in the sending countries [Bloom and Williamson (1988)].

A third issue is that the emigration of skilled labor reduces the human capital available to those left-behind in source countries. This can potentially have a devastating effect on economic growth. The reason is that one of the main sources of economic growth is technological change. The innovation of new products and new technologies is what lies behind a significant part of both trade and economic success in a modern economy [Romer (1990)]. But if human capital flees an economy, then the ability of those left behind to sustain innovation and technical change may be compromised, thus reducing an economy's economic growth [Rivera-Batiz (1996)]. The empirical evidence on this issue suggests that the brain drain is negatively related to economic growth. For instance, increases in the rate of skilled emigration, as defined above, are linked to statistically significant, lower rates of growth of income per-capita.

But there is an important caveat to this analysis. The evidence also shows that the brain drain has negative effects on economic growth but mainly in countries that have low quality of public sector governance [Rivera-Batiz, 2007]. Indeed, a growing literature suggests that in countries where the quality of the public sector governance is low, many educated workers tend to be employed in activities that are not necessarily high-productive activities for an economy. In

other words, in economies where the government is highly bureaucratic, where corruption is rampant, and the rule of law does not apply, many highly-educated workers will not be able to be gainfully employed [see Murphy et. al. (1991) and Rivera-Batiz (2002)]. In this case, the brain drain has no negative impact on technological change and, therefore, on economic growth.

In addition, there may be reasons to expect some positive externalities of skilled emigration on source countries. First of all, some researchers have recently suggested that a brain drain may actually raise the level of schooling of the population in the source country, at least in the long-run. There are several reasons for this. One hypothesis is that the brain drain will raise the wages of skilled workers and raise the rate of return to education. As a result, more young people in the country will decide to pursue higher education, thus raising educational attainment. Therefore, although a brain drain will reduce the stock of human capital (negative effect), it may lead to an increase in the level of schooling of the population (positive effect). However, empirical evidence on this issue has not been produced yet [see Schiff (2006)].

Finally, the brain drain may result in a loss of economies of scale among scientific and technological communities at home. But, on the other hand, they may generate international networks that could enhance the scientific and technological capacities at home. Evidence on the relative significance of these two effects is not available.

7. International Migration and the World Trade Organization

The international movement of workers is not an area of international trade that is under the general jurisdiction of the World Trade Organization (WTO). However, the WTO does consider specific migration flows as part of its General Agreement on Trade in Services (GATS). The GATS is a multilateral, voluntary and legally enforceable agreement covering international trade

in services. International migration flows enter as part of GATS so long as the workers are producing or consuming a service.

Both conceptually and statistically, a sharp distinction exists between goods and services. Goods relate to tangible products that are usually produced in one location at a certain point of time, and then later transferred and sold in other locations. Services generally involve outputs that are more intangible and tend to be produced, transferred and consumed at the same time and in the same location. The international Standard Industrial Technical Classification (SITC) system of economic sectors considers services to include wholesale and retail trade; transportation, storage and communications; finance, real estate and insurance; business, professional and technical services; travel and tourism services; and personal, community and social services. Educational services are included as part of the last category, which also includes health services, cultural services, etc.

Any transactions that occur between residents of a country and non-residents are considered to be international transactions. Historically, international trade has consisted mostly of trade in merchandise goods. Whether in the form of agricultural products, mining, or manufacturing, world trade has been dominated by trade in goods. In 2000, for example, trade in merchandise goods accounted for 82 percent of all world trade. Over the last 20 years, however, trade in services has been rising rapidly. In recent years, the value of trade in services has been increasing at a growth rate of close to ten percent per year. Higher education services constitute one of the categories of greatest growth.

There are four modes of international trade in services considered by GATS:

Mode 1-Cross-border supply focuses on the service crossing the border, but does not require the consumer to move physically. Examples include distance education and e-learning.

Mode 2-Consumption abroad refers to the consumer migrating or moving to the country of the supplier, which is the case of students pursuing all or part of their education in another country, as it has been documented above.

Mode 3-Commercial presence involves a service provider establishing a commercial facility in another country to provide a service. Examples include a U.S. software developer setting-up a branch of his or her business in China.

Mode 4-Presence of natural persons, means persons traveling to another country on a temporary basis to provide a service, which may be in the form of contract labor, consulting services, technical assistance, educational services, etc.

Temporary labor migration flows are included as part of the GATS Mode 4 trade in services. The migration of people to buy educational services, that is, the flow of international students, is included as part of Mode 2 trade. Since in an earlier section we discussed issues connected to temporary labor migration, this section will focus on migration flow under Mode 2 trade, which is a rising component of world trade in services.

The presence of barriers to trade in services acts to severely restrict temporary migration across borders. The impact of trade liberalization in this area would thu serves to increase migration flows. The impact of such liberalization on host and source countries is a policy issue that is currently being discussed as part of the current round of GATS negotiations. The discussion of the impact of GATS-related migration flows can be discussed using the same methodology developed earlier to examine the effects of other migration flows [see Winters (2002)].

8. Policy Questions/ Problems for Discussion

- This module has provided a detailed discussion of the possible gains and costs of international migration for developing countries. What is the balance of these costs and benefits? Should a developing country government promote the emigration of its workforce? On the basis of the module's analysis, what factors must a policymaker take into account in making this decision?

- How do the costs and benefits of the globalization of labor flows compare with those of international trade in goods and services in general? Would fostering international trade in labor be a better strategy for a developing country than trade in goods and services? Are there complementarities between these two forms of globalization?

- Many recipient countries are in a constant battle with a massive tide of undocumented workers. What policies can recipient countries adopt to control undocumented migration? Should new guest worker programs be implemented? How can sending countries be involved in this process?

- How can developing countries enhance the benefits of remittances? Based on the discussion in the module, what policies can be adopted by policymakers to increase the economic growth effects of remittances?

- What international organizations should do regarding international migration flows? Since, as the module emphasizes, the WTO, through GATS, is only concerned with temporary migrant follows, should a World Migration Organization (WMO) be established that coordinates world trade in labor? Are there global gains from trade in labor flows that could be tapped by a WMO? How would such an organization differ from the WTO? What potential contributions could it make?

- Some economists have suggested that it is optimal for source country nations to impose taxes on emigrants in order to recuperate investments made in the education of such migrants. Should policymakers consider imposing an exit tax on skilled emigrants? Would implementing such a policy assist or hinder the development process? How could such a policy be implemented?

- The discussion in the module has made it clear that geography matters in international migration flows. Are migration flows regional in nature? Should countries organize regionally to deal with international migration flows? What would be the benefits of such regional coordination?

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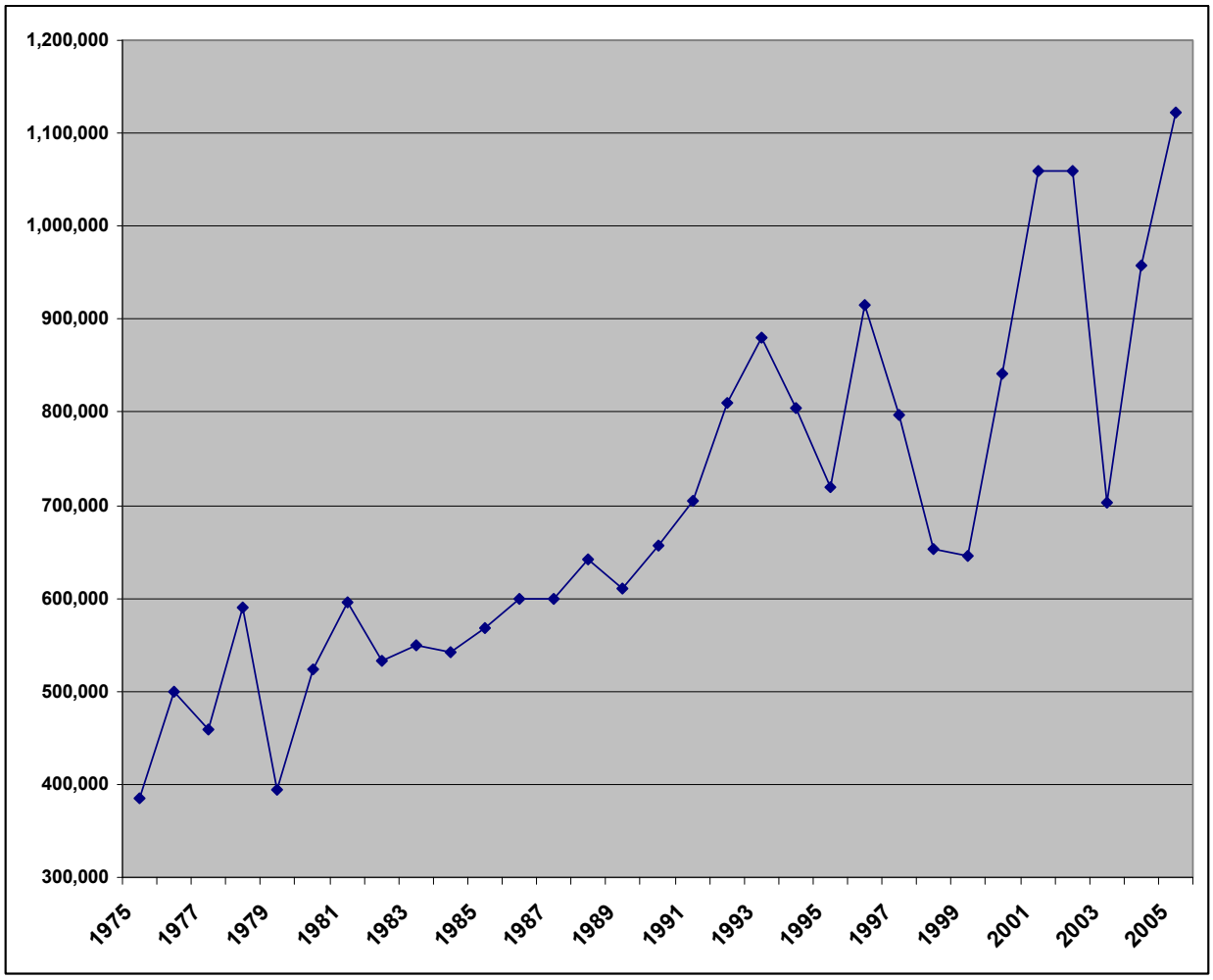
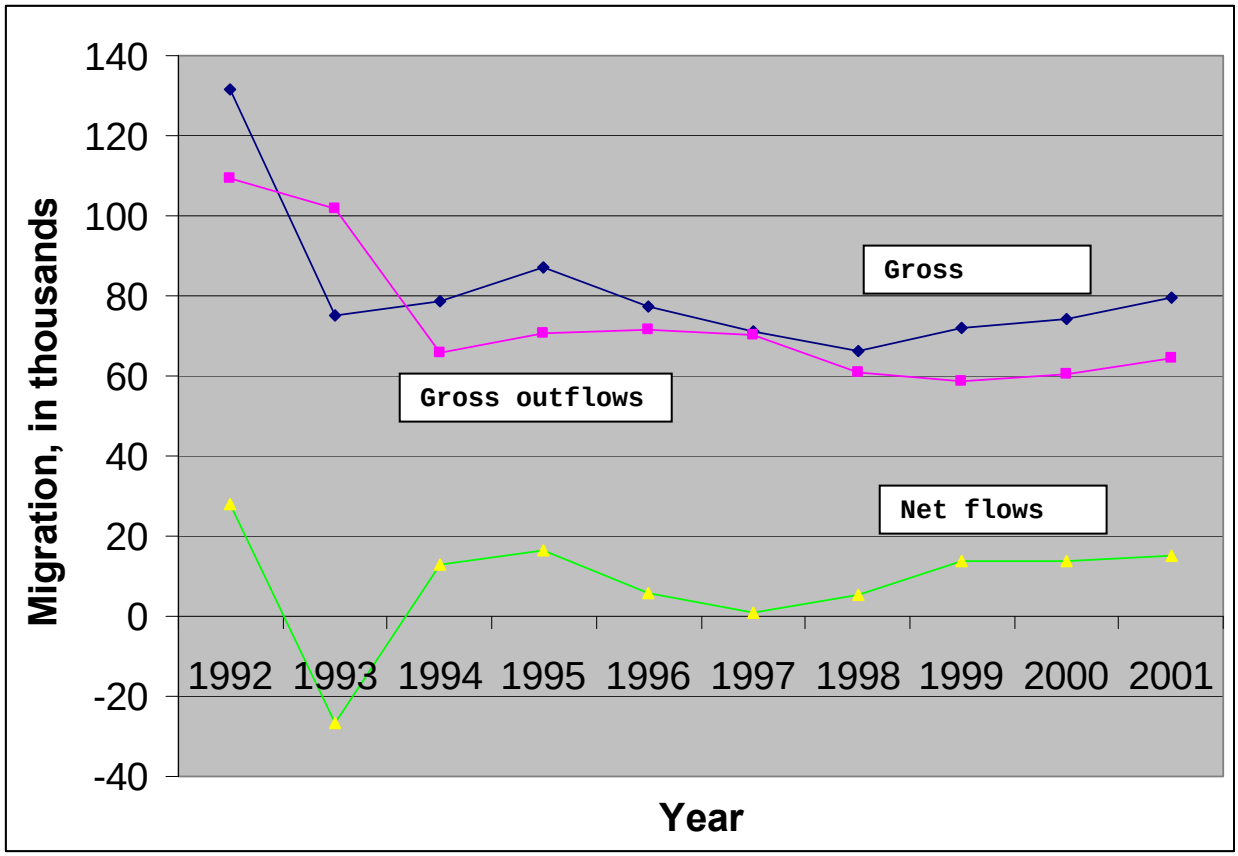
Figure 1. Immigrants Admitted to the United States, 1975-2005



Source: U.S. Department of Homeland Security (2006).

Figure 2. Gross and Net Flows of Polish Migrants in Germany



Source: OECD (2003).

Table 1. Estimates of the Stock of International Migrants in the World, 1960-2005

Year	Stock of Migrants	Change between Years
1960	75,463,352	
		] 2,980,581
1965	78,443,933	
		] 2,891,846
1970	81,335,779	
		] 5,453,525
1975	86,789,304	
		] 12,486,594
1980	99,275,898	
		] 11,737,332
1985	111,013,230	
		] 43,932,103
1990	154,945,333	
		] 10,134,902
1995	165,080,235	
		] 11,655,537
2000	176,735,772	
		] 13,897,792
2005	190,633,564	

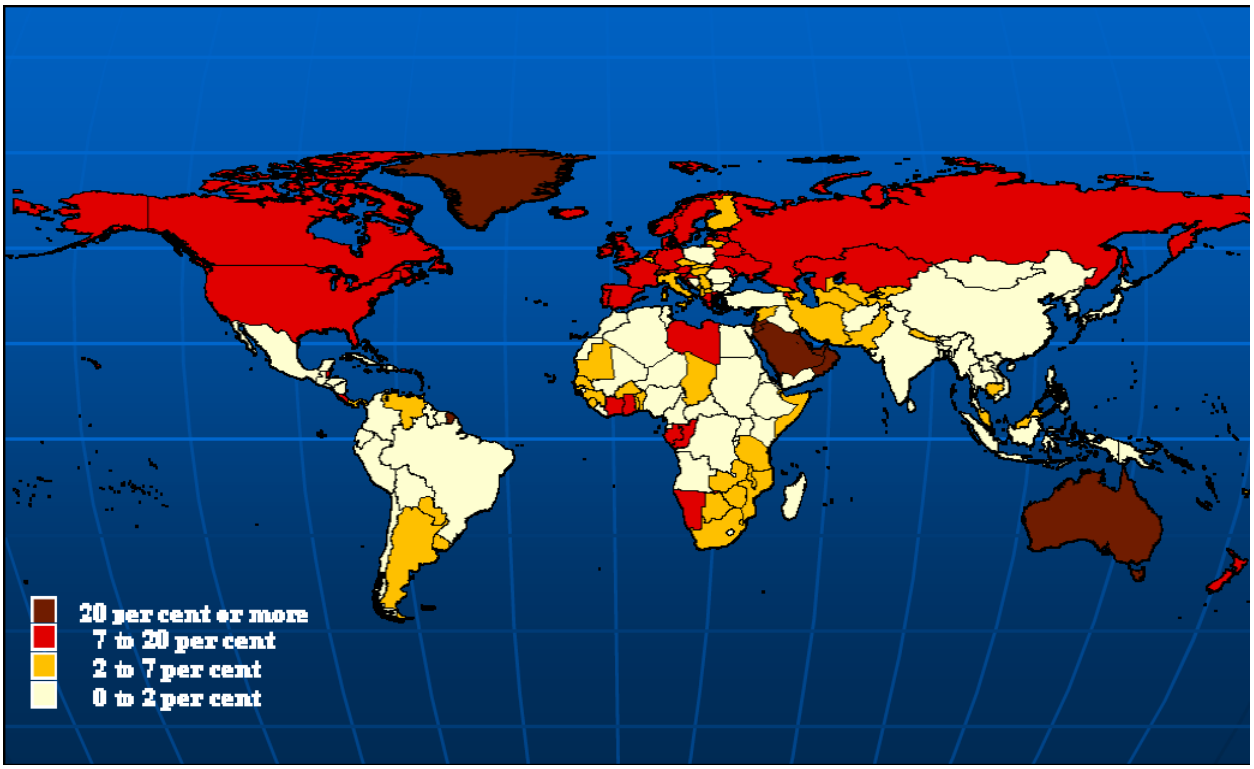
Source: United Nations (2007).

Table 2. Countries Receiving the Highest Number of International Migrants, 2005

	Stock of Immigrants, 2005
Overall Migrants	190,600,000
United States	38,400,000
Russian federation	12,100,000
Germany	10,100,000
Ukraine	6,800,000
France	6,500,000
Saudi Arabia	6,400,000
Canada	6,100,000
India	5,700,000
United Kingdom	5,400,000
Spain	4,800,000
Australia	4,100,000
Pakistan	3,300,000
United Arab Emirates	3,200,000
Israel	2,700,000
Italy	2,500,000
Kazakhstan	2,500,000
Cote D'Ivoire	2,400,000
Jordan	2,200,000

Source: United Nations (2006).

Figure 3. Immigrants as a Percentage of the Recipient Population, 2005



Source: United Nations (2006), p. 34.

Table 3. Countries Sending the Highest Number of International Migrants, 2000

	Stock of Emigrants, 2000
Overall Migrants	175,700,000
Mexico	10,098,858
India	8,958,965
Bangladesh	6,638,008
United Kingdom	4,193,174
Germany	4,047,061
Philippines	3,405,471
Pakistan	3,386,516
Italy	3,283,208
Turkey	3,001,152
Afghanistan	2,695,589
Morocco	2,614,663
Egypt	2,248,937
Algeria	2,085,260

Source: Parsons et. al. (2007).

Table 4. Regions and Countries with Highest Tertiary Emigration Rates

Region/Country	Tertiary Emigration Rate 2000
Caribbean	42.8%
East Africa	18.6
West Africa	14.8
Central America	16.9
Central Africa	16.1
Suriname	89.9
Guyana	89.0
Jamaica	85.1
Haiti	83.6
Trinidad & Tobago	79.3
Cape Verde	67.5
Gambia	63.3
Somalia	58.6
Malta	57.6
West Indies/Minor Antilles	57.4
Belize	51.0
Eritrea	45.8
Ghana	42.9
Mozambique	42.0
Sierra Leone	41.0
Vietnam	39.0
Madagascar	36.5
Nigeria	36.1
El Salvador	31.5
Nicaragua	30.9
Lebanon	29.7
Croatia	29.4
Cuba	28.9
Papua New Guinea	28.2
Sri Lanka	27.5
Kenya	26.3
Angola	25.6

Source: Docquier and Rapoport (2005); and Docquier and Marfouk (2006).

Figure 4. Determinants of Immigration Policies

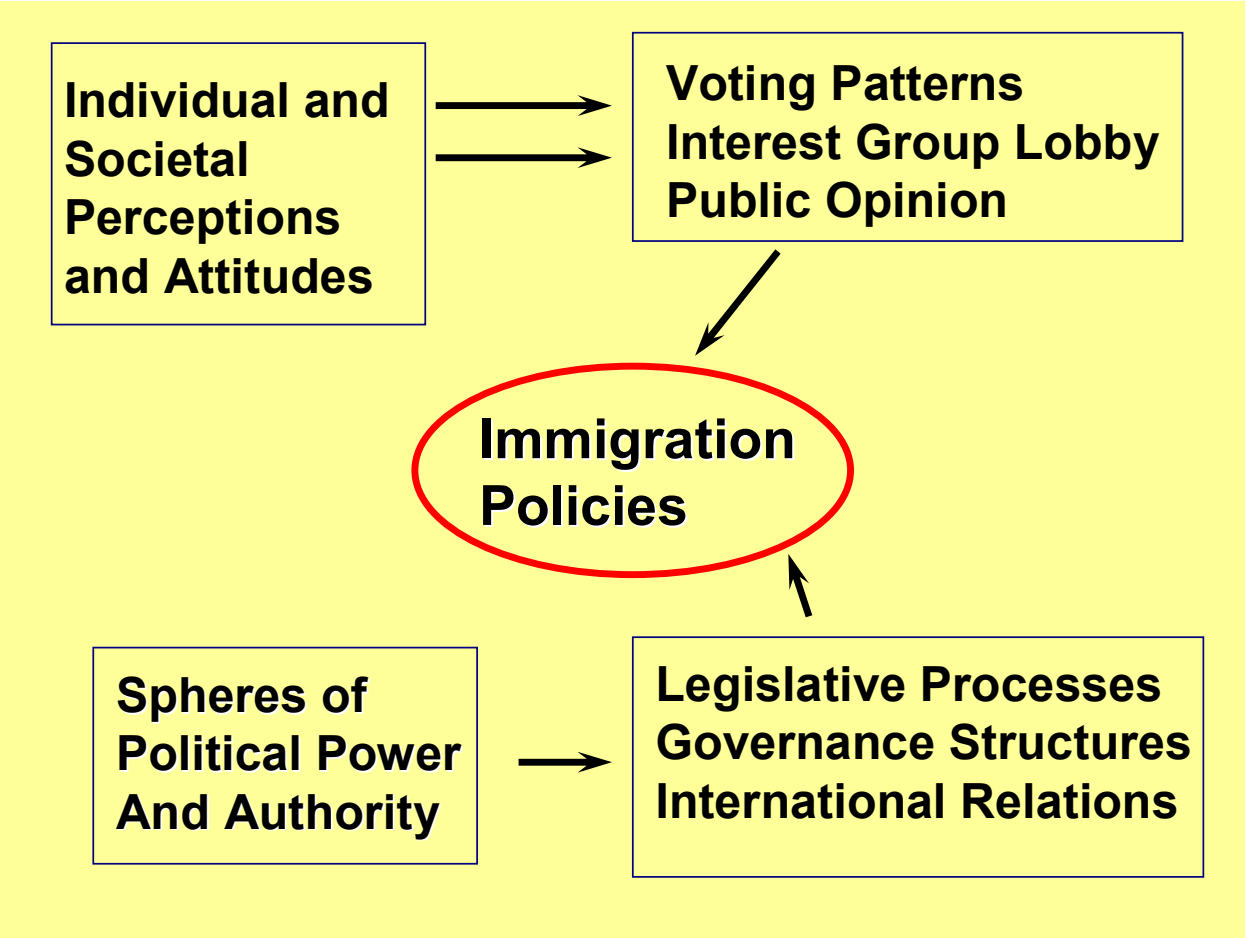


Table 5. Estimates of Undocumented Immigrants residing in Selected Recipient Countries

Country	Undocumented Immigrants, 2004
United States	10,300,000
Italy	700,000
Spain	690,000
Greece	370,000
Japan	210,000
Portugal	185,000
The Netherlands	177,500
Switzerland	90,000
Australia	50,000

Source: OECD (2006).

Table 6. Migrants Admitted to the U.S. as Legal Permanent Residents

Decade	Legal Permanent Immigrants Admitted
1890-99	3,687,564
1900-09	8,202,388
1910-19	6,347,380
1920-29	4,295,510
1930-39	699,375
1940-49	856,608
1950-59	2,499,268
1960-69	3,213,749
1970-79	4,248,203
1980-89	6,244,379
1990-99	9,775,398
2000-05	5,743,058

Source: U.S. Department of Homeland Security (2006).

Figure 5. The Inverted-U Relationship between Income and Migration

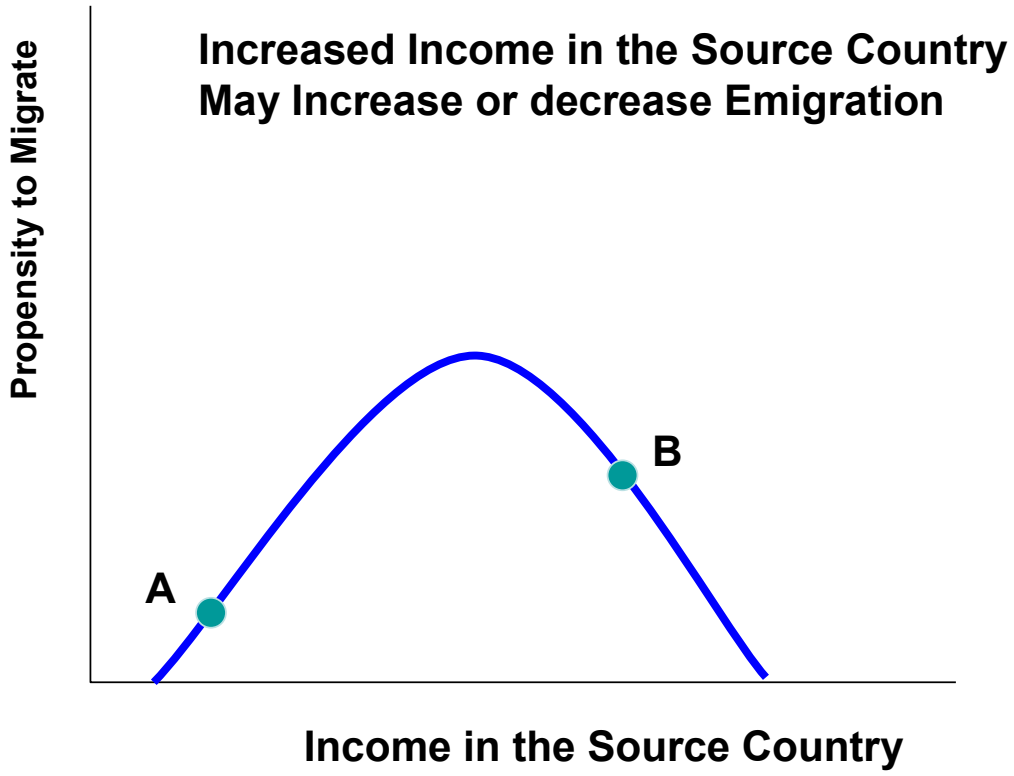
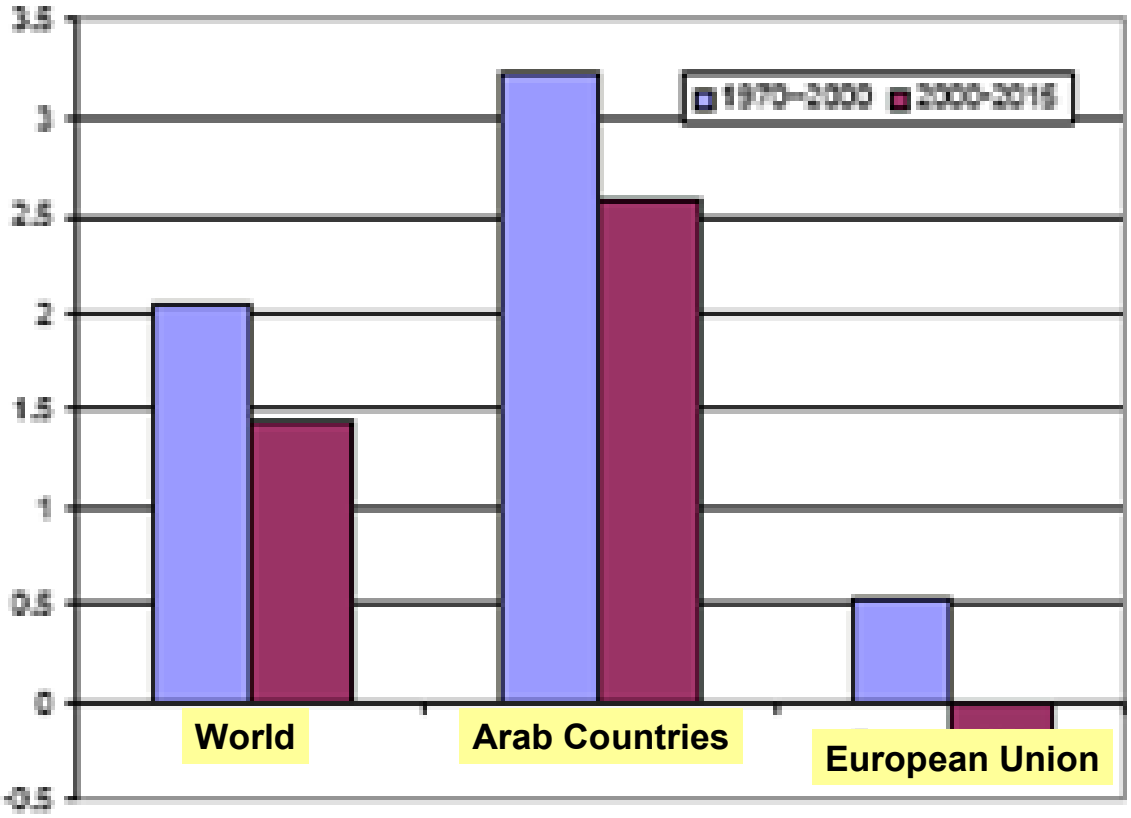


Figure 6. Comparative Growth of the Working Age Population (15 to 64) in The Middle East and North Africa (in % per year)



Source: Da Silva and Silva-Jauregui (2004).

Table 7. Refugees and Asylum-Seekers in Global Migration Flows

Year	Number of Refugees and Asylum-Seekers	Refugees and Asylum-Seekers as a % of Total Migration Flows
1960	2,163,992	2.9%
1965	3,869,580	4.9
1970	3,886,983	4.8
1975	4,217,992	4.9
1980	9,065,472	9.1
1985	13,197,759	11.9
1990	18,497,223	11.9
1995	18,492,547	11.2
2000	15,656,912	8.9
2005	13,471,181	7.1

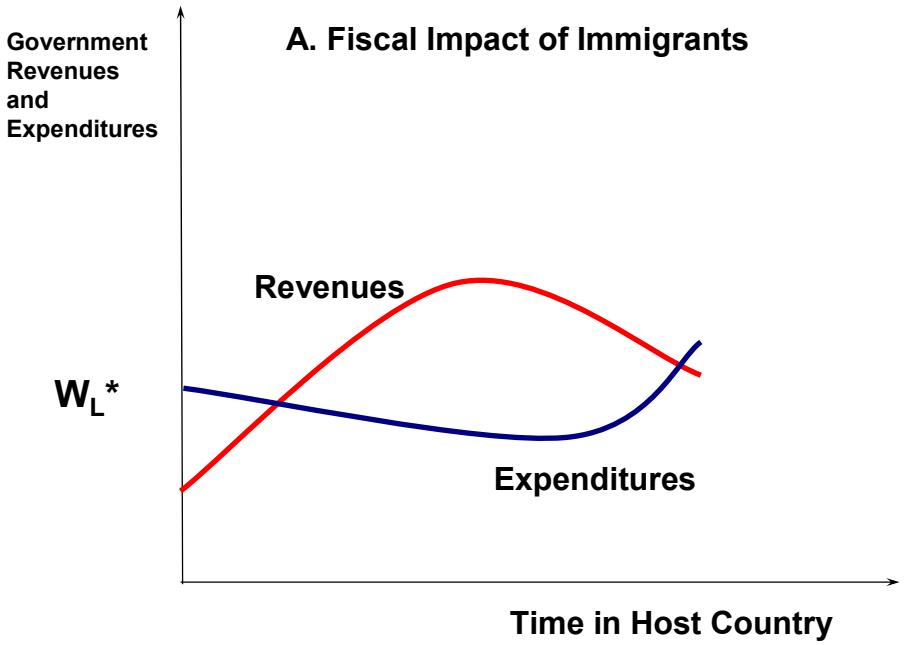
Source: United Nations (2006)

Table 8. The Wage Gains from Migration for Mexican Migrants in the United States

Educational Group (Years Of Schooling)	Wage in Mexico	Wage in the United States	Wage in US Divided by Wage in Mexico
0 - 4	$1.43	$8.44	5.9
5 – 8	1.80	8.19	4.6
9 – 11	2.10	8.21	3.9
12	2.79	9.06	3.3
13-15	3.77	9.53	2.5
16 +	5.20	13.02	2.5

Source: Hanson (2006).

Figure 7. The Impact of Migration on Government Revenues and Expenditures



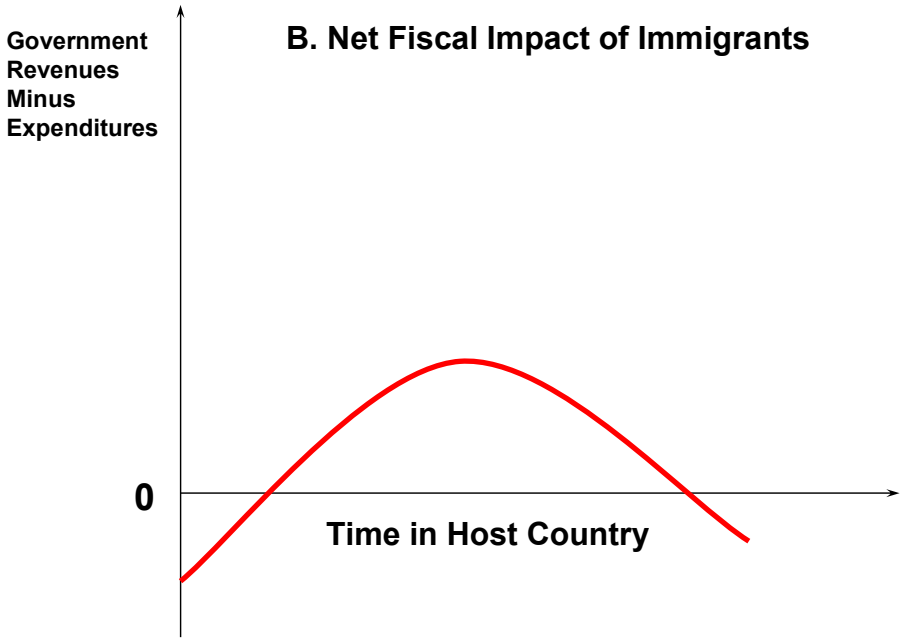


Table 9. Migrant Remittances, 2005
In millions of U.S. dollars

Country/Region	Remittances in Current $	Remittances in PPP-Adjusted $
Overall	$248,854	$677,190
High Income Countries	69,429	71,512
Low and Middle Income Countries	179,425	605,678
East Asia and Pacific	43,770	171,140
Latin America and the Caribbean	45,608	85,743
South Asia	33,929	170,662
Europe and Central Asia	24,385	78,763
Middle East and North Africa	24,309	74,871
Sub Saharan Africa	7,424	24,499

Source: Data for remittances in current $ are taken from World Bank (2007); other indicators are author's calculations using PPP adjustments and exports from World Bank (2007).

Table 10. Migrant Remittances in Developing Countries, Largest Recipients, 2005

Country/Region	Remittances in Current $	Remittances in PPP-Adjusted $	Remittances as a % of Merchandise exports
Developing Countries	179,425	605,678	6.0%
Mexico	21,772	32,222	10.3%
India	19,843	105,564	26.2
Philippines	11,634	45,605	29.2
Lebanon	5,722	5,493	335.3
Morocco	4,221	12,325	42.5
Serbia/Montenegro	4,129	9,868	103.8
Pakistan	3,955	14,277	29.5
Bangladesh	3,583	15,407	43.1
Brazil	3,540	7,682	3.0
Colombia	3,345	10,704	15.8
Egypt	3,341	8,018	43.5
Guatemala	2,592	5,962	88.2
El Salvador	2,564	5,718	77.8
Dominican Republic	2,471	6,671	43.0
Algeria	2,460	7,577	7.9
Jordan	2,288	5,010	58.9

Source: Data for remittances in current $ are taken from World Bank (2007); other indicators are author's calculations using PPP adjustments and exports from World Bank (2007).