Economic Research on the Determinants of Immigration

Lessons for the European Union

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Economic Research on the Determinants of Immigration
Lessons for the European Union

George J. Borjas

The World Bank
Washington, D.C.
Foreword

The Poverty Reduction and Economic Management Unit in the World Bank's Europe and Central Asia Region has been undertaking a series of analytical work on issues pertinent to the economies in the region. These issues include: transition issues; issues of economic integration pertinent for the Central and Eastern Europe countries which are candidates for accession to the European Union; poverty issues; and other economic management issues. The analytical work has been conducted by staff of the unit, other Bank staff as well as specialists outside of the Bank.

This technical paper series was launched to promote wider dissemination of this analytical work, with the objective of generating further discussions of the issues. The studies published in the series should therefore be viewed as work in progress.

The findings, interpretations and conclusions are the authors' own and should not be attributed to the World Bank, its Executive Board of Directors, or any of its member countries.

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Executive Summary

There has been a resurgence of immigration in many developed countries. Over 120 million people, or 2 percent of the world's population, now reside in a country where they were not born (Martin, 1998). Although most immigrants choose a "traditional" destination (two-thirds typically go to the United States, Canada, or Australia), many other countries are receiving relatively large immigrant flows. About 9 percent of the population in Austria, 6 percent in France, and 9 percent in Germany is foreign-born. Even Japan, which is thought of as being very homogeneous and geographically immune to immigrants, now reports major problems with illegal immigration.

As a result of these changes in the "immigration market," the economic impact of immigration is now being heatedly debated in many potential host countries. The policy discussion is typically centered on three substantive questions. First, how do immigrants perform in the host country's economy? Second, what impact do immigrants have on the employment opportunities of native-born workers? And, finally, which immigration policy would most benefit the host country?

The practical significance of these questions is evident. For example, highly skilled immigrants who adapt rapidly to conditions in the host country's labor market can make a significant contribution to economic growth. Native workers need not be concerned about the possibility that these immigrants will increase expenditures on social assistance programs. Conversely, if immigrants lack the skills that employers demand and find it difficult to adapt, immigration may significantly increase the costs associated with maintaining many programs in the welfare state as well as exacerbate the wage inequality that might already exist in the host country.

Similarly, the debate over immigration policy has long been fueled by the widespread perception that immigrants have an adverse effect on the employment opportunities of native workers. Do immigrants enter the host country and "take away jobs" from natives? Which native workers are most adversely affected by immigration and how large is the decline in the native wage?

Finally, there is great diversity in immigration policies across countries. Some countries, such as the United States, award entry visas mainly to applicants who have relatives already residing in the country. Other countries, such as Australia and Canada, award visas to persons who have a desirable set of socioeconomic characteristics, and still other countries, such as Germany, encouraged the migration of "temporary" guest workers in the 1960s, only to find that the temporary migrants became a permanent part of the German population. The choice of the "right" immigration policy can obviously have a significant impact on economic activity, both in the short run and in the long run.

A central question underlies all of these policy concerns: what factors motivate some persons to leave the country where they were born and move to a different country, a country that may have a very different culture and where the bulk of the population speaks a different language?

The past decade witnessed an explosion in research on many aspects of the economics of immigration. This literature is mainly motivated by the various policy concerns and provides valuable insights into all these issues. In this paper, I summarize some of the key findings of
this literature, and apply them to the context of the potential migration problem faced by countries in the European Union (EU). As the EU expands beyond its original boundaries, there has been rising concern that wage differences among the existing countries in the EU and new entrants, such as Hungary and Poland, may motivate many workers to migrate into the European Union. These concerns are sufficiently serious that they may play an important role in the negotiations between the European Commission and a number of the countries in Central and Eastern Europe that are applying for accession.

A key objective of the paper is to present a review of existing economic theory and empirical evidence to evaluate the likelihood of migration flows from acceding countries (and neighboring countries) toward the current EU member states. In particular, the analysis will derive the implications of the existing evidence for the size and skill composition of the migration flows that might occur between the acceding countries and the current EU member states. The paper will also briefly review the migration policies that are currently in place, and make policy recommendations to allay the serious concerns raised by the migration issue in the context of the European Union.

1. The Migration Decision: A Review of the Theory

There are three sets of players that jointly determine the size and direction of population flows across countries: the people contemplating whether or not to leave the source countries, the governments of these source countries, and the governments of the potential countries of destination. These players in the "immigration market" typically have different objectives, and it is the interaction among these players that leads to a particular sorting of persons among countries.

Persons residing in any particular country of origin will often consider the possibility of remaining there or of migrating elsewhere. They make the migration decision by comparing the "offers" made by the various alternative destinations, and presumably choose the country that makes them best off given the financial and legal constraints that regulate the international migration process.

The "offer" made by a particular country obviously includes economic considerations, such as income opportunities and the likelihood of long-term unemployment spells. Each country offers a specific set of economic opportunities. These income and employment opportunities can be described in terms of the existing income distribution where certain types of skills are highly rewarded and other types are not; where jobs in some industries are easily available, but jobs in other industries are scarce; where some occupations are in high demand, but high levels of unemployment persist in others; and where persons who experience relatively poor labor market outcomes are subsidized by the welfare state, while persons who experience favorable outcomes may be heavily taxed. These differences in income and employment opportunities by skill, industry, and occupation imply that the attractiveness of the offer made by a particular host country will, in general, differ among potential migrants. Some potential migrants may find the offers lucrative; others may not.

It is instructive to think of the offer made by a particular country in much broader terms than the economic considerations detailed above. The offer's value will also depend on political conditions in the particular country, and on the cultural and social networks that might link the source country with the destination country. These "non-economic" characteristics
are obviously important determinants of the attractiveness of any particular country to a potential migrant. There is obviously a great deal of variation in the value of the offers made by different countries, simply because economic opportunities, as well as cultural, social, and political conditions, vary greatly across countries.

In the absence of any constraints on the migration process, all persons would simply move to the country that makes the best offer. There exist a number of constraints, however, that lower the chances that persons can move to the country offering the best opportunities. The constraints include the potential migrant's financial resources. After all, migration is costly. The costs include direct expenditures (such as the out-of-pocket expenses of transporting the immigrant and family to their new home), as well as indirect costs (such as the income losses associated with unemployment spells that occur as immigrants look for work in the new country). Because only those persons who have accumulated sufficient savings and wealth can afford to migrate, the potential migrant's financial resources obviously restrict the immigration decision. Moreover, immigration also imposes so-called “psychic costs” on the potential migrant because the migrant is often leaving behind friends, family, language, and culture, and starting life over in an alien environment. These psychic costs are probably lower the more extensive the cultural and social links between the source and destination countries. These social networks have been found to be important determinants of the source of migration flows in the U.S. context.

The immigration policies pursued by the potential host countries also play an important role in the migration decision. These policies can encourage, discourage, or altogether prevent the entry of certain groups of persons. Host countries typically regulate the size and skill composition of the immigrant flow by imposing restrictions on entry according to the potential migrant’s skills, wealth, occupation, political background, moral rectitude, national origin, or familial relationships with current residents. In one sense, these regulations generate differences in migration costs among potential migrants. For example, current immigration policy in the United States makes immigration costs almost prohibitive for persons who do not already have relatives residing here (since few visas are allotted to persons without these family connections). Other host countries, such as Australia and Canada, have a “point system” in which potential immigrants are screened and graded on the basis of their educational attainment, age, occupation, and other demographic characteristics, and only those individuals who pass the test can enter the country. Immigration policies, by their very nature, impose different costs on different people, and act as a screening device to filter out “less desirable” persons from the entry pool.

The home countries of potential migrants are the last major players in the immigration market. Their economies also provide a certain set of income and employment opportunities to their residents, and their emigration policies sometimes regulate the size and skill composition of the outgoing flow. In some countries, like the United States, citizens are free to leave the country whenever they wish, for any duration, and for whatever reason. In other countries, emigration statutes impose large costs and penalties on potential emigrants, sometimes through the tax system or through the “threat” of losing one’s nationality (and whatever rights derive therefrom) if the potential migrant becomes a citizen of another country.

Although I have emphasized that the value of a country’s offer can be interpreted in terms of both economic and non-economic considerations, most of the empirical studies that attempt to analyze migration flows typically focus on the economic determinants of migration.
As a result, it is traditionally assumed that the migration decision is motivated by a person's desire to maximize his or her economic opportunities. After a potential migrant compares all of the feasible opportunities, therefore, he or she chooses to reside in the country that maximizes income net of migration costs—subject to the constraints imposed by the immigration policies of the various countries.

This approach to the migration decision, therefore, immediately implies that international differences in incomes are a prime determinant of the size and direction of immigrant flows. Put simply, immigrants tend to gravitate from low-income countries to high-income countries. Furthermore, the larger the income differential between the countries, the larger the size of the population flow. For instance, the wage differential between Mexico and the United States is perhaps the largest income gap between any two contiguous countries in the world. It should not be too surprising, therefore, that large migration flows originate in Mexico and move towards the United States, rather than the other way around.

The size and direction of international population flows also depend on the costs of leaving the source country and of entering a particular host country. Distance is probably an important determinant of the "direct" costs of migration—although many of the advances in transportation during the twentieth century have greatly weakened the link between distance and migration costs. Nevertheless, it is likely that persons have more (and better) information—as well as more extensive social and cultural links—with countries that are closer to home. As a result, migration flows will typically be larger among countries that are geographically (and culturally) close to each other.

As I noted earlier, one can interpret the restrictions placed by immigration policy as part of the migration costs. In some cases, income differentials between two countries are sufficiently large that persons may be willing to incur the costs of migration—even if no visas are available—by entering the host country illegally. In the United States, for example, there are 5 million permanent illegal aliens, and this population increases by around 300 thousand persons annually. To deter this type of illegal migration, many countries impose penalties on residents who break the immigration statutes. The penalties typically include sanctions on the employers who hire illegal aliens, and sometimes may also include a fine on the illegal aliens themselves. If these penalties are sufficiently high—which they obviously are not in the U.S. context—one might expect that the illegal alien flow would be relatively small because few persons can afford to bear such costs.

In other cases, such as migration flows within the territories of the United States, there are no migration policies to restrict the size, direction, and skill composition of population flows. Persons born in any part of the United States, including its territories, such as Puerto Rico, for instance, are free to move to and work in any other location within the United States. Similarly, persons residing in any European Union country that adheres to the Schengen Agreement are entitled to move and work in any other member country. These cases exemplify a policy of "open migration," and the particular sorting of persons across countries that occurs in these cases will reflect only the differences in the net values of the offers made by the member states within each political grouping.

In addition to the implications about the size and direction of international population flows, the economic approach to immigration can also tell us much about the skill composition of the immigrant pool. Consider, for example, the migration of Mexicans to the United
States. Even though it is very large (7 million Mexican-born persons were living in the United States in 1997), it is still small when compared to the Mexican population. In 1997, there were about 105 million Mexican-born persons, which means fewer than 7 percent of the Mexican population had chosen to move to the United States.

It would be hard to blame restrictive immigration policies for Mexico’s relatively low out-migration rate. The U.S.-Mexico border is notoriously porous, and can be crossed illegally by almost anyone who really wants to. Moreover, per-capita income in the United States is more than three times that of Mexico, even after adjusting for differences in purchasing power. The fact that only 7 percent of Mexico’s population had chosen to migrate to the United States in 1997 raises two interesting points.

First, it is clear that even very large income differentials across contiguous countries with a very porous border are not sufficient to motivate a large bulk of the population to move to a different country.

Second, it is not sufficient to know that only 7 percent of Mexicans find it beneficial to migrate to the United States. Perhaps more important is the question which 7 percent? Are the immigrants drawn from the pool of skilled Mexican workers, or are they drawn from the unskilled? Any assessment of the economic impact of immigration on the host country (as well as on the source country) will obviously depend on the answer to this question.

The subsample of persons who choose to emigrate from a particular country is self-selected from that country’s population. The fact that some persons choose to migrate, while others do not, implies that immigrants differ in significant ways from the rest of the population. Moreover, the immigrant flow that eventually reaches any particular country of destination is filtered through a form of “double” self-selection. The immigrant flow in the United States, for example, contains only those persons who found it profitable to leave their home countries and who found it unprofitable to migrate to an alternative host country. The self-selection of immigrants implies that the average immigrant residing in a particular host country differs from the average person in the host country and in the source country they came from.

The economic impact of immigration is clearly affected by the type of skill sorting that takes place. The immigration of unskilled workers, for instance, may allow manufacturers in the host country to fill menial jobs that require few skills with relatively low-wage labor. On the other hand, the immigration of skilled workers helps staff universities, hospitals, and scientific laboratories. In addition, the immigration of the unskilled may have a different impact on native labor market conditions, on tax revenues, and on the costs of social programs than the immigration of the skilled. To a large extent, therefore, the economic impact of immigration is largely determined by the nature of the self-selection that takes place as persons decide in which country to reside.

To illustrate how the self-selection process generates a particular type of immigrant flow, it is instructive to consider the situation faced by a particular host country, such as the United States. We can then ask, does the United States attract the most skilled workers from any given source country, or the least skilled workers?

Suppose that persons make their migration decision by comparing only the economic opportunities provided by a particular source country with those provided by the United States. Also, consider a group of workers who currently live in a country where the payoff to
human capital is relatively low, so that skilled workers do not earn much more than less skilled workers. This situation may be common in some Western European countries, such as Sweden and Germany, where the welfare state and other social policies tend to equalize the income distribution, taxing the highly skilled and subsidizing the less skilled. As long as persons migrate to the countries that provide the best economic opportunities, the workers who have the most to gain by moving to the United States are the workers who have above-average skills. The United States would then benefit from a brain drain; immigrants, in effect, are "positively selected" from the population of the countries of origin.

Alternatively, consider workers living in countries where the payoff to human capital is relatively high. The rewards to skills are often quite high in many developing countries, such as Mexico and the Philippines. These high rewards to skills partly account for the very unequal distributions of incomes observed in these countries, where the skilled earn substantially more than the less skilled. Highly skilled workers residing in these countries often face better economic opportunities than they would face if they migrated to the United States, while less skilled workers can barely rise above the subsistence level. As long as persons migrate to countries that provide better economic opportunities, the skilled workers in these countries have little incentive to leave. It is the least skilled who want to emigrate, and the immigrant flow will be composed of workers with below-average skills. Immigrants, in effect, are "negatively selected" from the population of the countries of origin.

In short, as long as economic considerations matter in the migration decision, skills tend to flow to those markets that offer the highest value. Immigrants originating in countries that offer relatively high rewards to human capital will tend to be less-skilled, while immigrants originating in countries that offer relatively low rewards to human capital will be relatively highly skilled. From the perspective of any potential host country, such as the United States, the country will likely attract highly skilled workers from some source countries (the countries where the returns to skills are low), and unskilled workers from other source countries (the countries where the returns to skills are high).

In the end, persons participating in the "immigration market" are matched with the countries that reward the specific skill characteristics they have to offer. This is the central implication of the economic approach to the analysis of immigration. As long as individuals migrate to take advantage of differential economic opportunities among countries, there is no reason to presume that any particular host country will always attract the "best and the brightest," or to presume that this country will be continually flooded with the least skilled persons of the source countries.

It is worth summarizing the lessons implied by the economic approach to the analysis of immigration in terms of a few simple propositions:

1. The greater the differences in economic opportunities between a sending country and a receiving country, the larger the number of persons who will migrate from the low-income country to the high-income country.

2. The more expensive it is to migrate from one country to another, the smaller the number of persons who will choose to do so. The migration costs will typically include the actual dollar costs associated with the move, the psychic costs imposed by moving to an alien social and cultural environment, and the penalties imposed on those who facilitate the entry and employment of illegal aliens.
3. The greater the rewards to human capital offered by a particular country of destination, the more likely that the persons who choose to move there are relatively skilled.

The Link between Immigration and Trade

The discussion of the factors that underlie the decision to immigrate has implicitly been conducted in what economists call a “partial equilibrium” framework. In particular, the income opportunities in the host and source countries are taken as given, and potential migrants respond to—and do not affect—these income opportunities. As we will see below, however, by shifting the supplies of workers from one country to another, the process of migration will itself change the income opportunities available in each country in the long run, helping equalize incomes across countries.

There are, however, other links across the two economies that can help equalize economic opportunities even in the absence of migration flows. This fact is quite important in the context of the European Union since capital, goods, and services can flow unimpeded among the member states.

In one important sense, immigration and trade are substitutable ways in which countries can respond to the relative abundance or the relative lack of particular factors of production. In fact, standard models of trade and immigration suggest that immigration and trade alter national output and the distribution of income through the same mechanism—by increasing the nation’s effective supply of relatively scarce factors of production.

Suppose, for instance, that country A has a relative abundance of skilled labor, while country B has a relative abundance of less skilled workers. In the absence of any links between the two countries, this distribution of skill endowments across countries would suggest that the skilled-unskilled wage ratio would be far higher in country B. Immigration between the two countries would help equalize the skilled-unskilled wage ratio because the less skilled workers would tend to move from country B to country A, while the more skilled workers would move in the other direction. But this change in the wage ratio could also be accomplished through trade—even in the absence of any migration flows. After all, country A would want to import the goods produced by less skilled workers, increasing the wage of these workers in country B; while country B would want to import the goods produced by skilled workers, increasing the wage of these workers in country A. In the end, trade flows would help equalize economic opportunities for each skill group across countries.

In fact, it is not even necessary for trade flows to actually occur in order for the equalization process to take place. Suppose, for instance, that a Portuguese firm begins producing Tower of London souvenirs and informs the London souvenir stands that it can provide the product at a lower price than English producers. The souvenir stands will then inform the English manufacturers that they have to meet the new price to keep their business. The English firms, in turn, will tell their workers that they can stay competitive only if the workers take a pay cut. If the workers accept the pay cut, the English firms maintain their hold on the Tower of London souvenir market—and the wages of these workers were effectively set by the economic conditions existing in Portugal. If the workers do not accept the pay cut, the English companies will no longer be competitive, and the English workers lose their jobs as the production of Tower of London souvenirs moves to Portuguese factories. In short, the
threat of trade flows can help equalize economic opportunities across countries about as well as actual trade flows can.

It is useful to recognize that both trade and immigration increase the “effective” labor supply of particular groups of workers in a particular labor market. Every time the United States imports an automobile from Japan, for example, the country is effectively importing say 350 man-hours of engineering know-how, 250 man-hours of less skilled labor, and so on. In other words, one can interpret the entry of this automobile into the U.S. market as the immigration of workers with particular skills.

Regardless of how the “globalization” process takes place—through labor flows, capital flows, or trade—the end result is the same. By increasing the links across distinct economies, these flows help to equalize economic opportunities across markets. The presence of one of these flows, in effect, reduces the incentives for the other types of flows to occur. In the context of the European Union, this implies that the capital and goods flows that occur unimpeded within the community will, in the long run, help reduce the income differentials that serve as the impetus for migration flows in the first place.

2. Evidence from the United States

Immigration to the United States is an important demographic factor in some source countries, and a relatively unimportant one in others. Table 1 reports the number of immigrants to the United States between 1970 and 1990 originating in a particular source country as a percent of the source country’s population in 1980. There is a great deal of variation in this (rough) measure of the emigration rate across source countries. Over 10 percent of the population of Guyana and Jamaica migrated to the United States between 1970 and 1990, as compared to less than 1 percent of the population in Denmark, Greece, or Italy.

A number of studies have uncovered a strong correlation between the rate of emigration and economic conditions in the source and host countries. The following equation summarizes the statistical relationships that are typically discussed in the academic literature:

\[
\text{Emigration Rate} = 13.0 - 0.2 \times \text{(per-capita GDP in the source country, in $1000s)} - 0.7 \times \text{(distance from the United States, in 1000s of miles)}
\]

The per-capita income of the source country is measured as of 1985 and gives the (purchasing-power-parity adjusted) per-capita GDP of the source country. There is clearly a strong link between the emigration rate and per-capita income in the source country: a five thousand dollar increase in per-capita GDP reduces the emigration rate by one percentage point. There are huge differences in per-capita GDP across source countries. For instance, per-capita GDP is only $911 in Haiti, $5,621 in Mexico, and over $15,000 in Canada. The statistical correlation between the emigration rate and per-capita income suggests that international differences in income levels can generate substantial differences in the emigration rate.

The empirical analysis also illustrates how migration costs deter population flows across countries. The out-migration rate falls by almost 1 percentage point for every 1000-mile increase in the distance between the source country and a gateway city in the United States. This measure of migration costs probably ignores a large part of what truly deters persons
### Table 1 Emigration Rate to the United States from Selected Countries, 1970-90

<table>
<thead>
<tr>
<th>Country of origin</th>
<th>Number of immigrants as percent of 1985 population in sending country</th>
<th>Per-capita GDP in sending country (in 1985 dollars)</th>
<th>Distance from the United States (1000s of miles)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>0.15</td>
<td>13583</td>
<td>7.6</td>
</tr>
<tr>
<td>Austria</td>
<td>0.13</td>
<td>11131</td>
<td>4.2</td>
</tr>
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<td>Barbados</td>
<td>11.64</td>
<td>6131</td>
<td>1.6</td>
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<tr>
<td>Belgium</td>
<td>0.12</td>
<td>11285</td>
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<tr>
<td>Canada</td>
<td>0.84</td>
<td>15589</td>
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<td>China</td>
<td>0.04</td>
<td>1262</td>
<td>6.3</td>
</tr>
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<td>Costa Rica</td>
<td>1.07</td>
<td>3184</td>
<td>1.1</td>
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<td>0.22</td>
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<td>Dominican Republic</td>
<td>4.26</td>
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<td>El Salvador</td>
<td>9.27</td>
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<td>0.09</td>
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<td>Germany</td>
<td>0.12</td>
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<tr>
<td>Greece</td>
<td>0.71</td>
<td>6224</td>
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<tr>
<td>Guyana</td>
<td>13.38</td>
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<tr>
<td>Haiti</td>
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<td>Hong Kong</td>
<td>2.11</td>
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<td>Hungary</td>
<td>0.20</td>
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<td>Italy</td>
<td>0.20</td>
<td>10808</td>
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<td>Jamaica</td>
<td>11.41</td>
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<td>0.6</td>
</tr>
<tr>
<td>Lao, PDR</td>
<td>5.52</td>
<td>1340</td>
<td>8.0</td>
</tr>
<tr>
<td>Mexico</td>
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<td>5621</td>
<td>1.3</td>
</tr>
<tr>
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<td>4.65</td>
<td>1790</td>
<td>1.1</td>
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<tr>
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<td>1542</td>
<td>7.3</td>
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<tr>
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<td>4177</td>
<td>4.3</td>
</tr>
<tr>
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<td>1.13</td>
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<td>3.4</td>
</tr>
<tr>
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</tr>
<tr>
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<td>0.22</td>
<td>13451</td>
<td>3.9</td>
</tr>
<tr>
<td>Trinidad</td>
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<td>9701</td>
<td>1.6</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>0.09</td>
<td>11237</td>
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<tr>
<td>Former Soviet Union</td>
<td>0.07</td>
<td>7049</td>
<td>4.7</td>
</tr>
</tbody>
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*Source:* The emigration rate is calculated by combining counts of immigrants from the U.S. Census with source country population data. The per-capita GDP data are drawn from Summers and Heston (1992). The distance data are drawn from Fitzpatrick and Madlin (1986).

from moving across international boundaries, such as the pain of separation from friends and family, and differences in cultures and languages.

The overall point of the statistical equation, however, is to show that differences in per-capita income across countries play an important role in determining migration flows. As a result, the number of migrants can be expected to fall considerably if an ongoing process of trade and development (such as the one in place in the European Union) helps equalize economic opportunities across countries over time.

An interesting example of "international" migration flows when there are no policies restricting entry into the United States arises in the case of Puerto Rico. In fact, the relationship
between Puerto Rico and the United States—in the context of the migration issue—is of particular relevance to the European Union and to studies of migration flows across member states.

The island of Puerto Rico was ceded to the United States by Spain in 1898, and became a commonwealth in 1952. All persons born in Puerto Rico are U.S. citizens by birth and as such can move freely within the territories under U.S. jurisdiction. In other words, there are no legal restrictions on the number or type of persons who can migrate between Puerto Rico and the United States. In an important sense, however, Puerto Rico and the mainland United States resemble different countries. They offer very different economic opportunities, have different cultures, and the population speaks different languages. Because of the special political relationship between Puerto Rico and the United States, the population flows will likely provide a clear-cut example of the types of immigration that will occur when countries enact “open migration” policies.

The differences in economic opportunities between Puerto Rico and the United States are quite large. In 1990, for example, median family income was $35,225 in the United States, but only $9,988 in Puerto Rico. Similarly, the unemployment rate was 6.3 percent in the United States, but 20.4 percent in Puerto Rico. Ramos (1992) presents a detailed analysis of the population flows generated by these large differences in economic opportunities. In 1980, almost 1 million out of the 4 million persons born in Puerto Rico were living in the United States—generating an emigration rate of about 25 percent. Although the Puerto Rican migration to the United States is obviously large both in absolute and relative numbers, it is still worth considering why more Puerto Ricans did not choose to emigrate. After all, the income differences between Puerto Rico and the United States are quite large. Second, there are no legal restrictions preventing Puerto Ricans from moving to and working in the mainland United States. Third, there exist large and vibrant ethnic communities of Puerto Ricans in many American cities, and these ethnic communities should help provide information about the opportunities offered by the United States as well as lower the adjustments costs of migration. Finally, the direct costs of migration are quite low; air travel on the competitive routes between Puerto Rico and many of the large cities in the U.S. eastern seaboard is inexpensive. In short, the remarkable thing is not that 25 percent of Puerto Ricans migrated to the United States, but that 75 percent of Puerto Ricans did not.

Ramos (1992) presents a detailed analysis of the population flows generated by these large differences in economic opportunities. In 1980, almost 1 million out of the 4 million persons born in Puerto Rico were living in the United States—generating an emigration rate of about 25 percent. Although the Puerto Rican migration to the United States is obviously large both in absolute and relative numbers, it is still worth considering why more Puerto Ricans did not choose to emigrate. After all, the income differences between Puerto Rico and the United States are quite large. Second, there are no legal restrictions preventing Puerto Ricans from moving to and working in the mainland United States. Third, there exist large and vibrant ethnic communities of Puerto Ricans in many American cities, and these ethnic communities should help provide information about the opportunities offered by the United States as well as lower the adjustments costs of migration. Finally, the direct costs of migration are quite low; air travel on the competitive routes between Puerto Rico and many of the large cities in the U.S. eastern seaboard is inexpensive. In short, the remarkable thing is not that 25 percent of Puerto Ricans migrated to the United States, but that 75 percent of Puerto Ricans did not.

The Puerto Rican case study, in fact, provides unambiguous evidence that important non-economic factors help to restrain migration flows. These restraining factors may include differences in language and cultures across the localities, and the “psychic costs” of leaving behind a familiar environment and entering a new alien environment.

As an alternative example of migration flows when there are “open migration” policies, consider the migration of workers within the United States. There exists a huge academic literature analyzing the factors that motivate workers in the United States to move across regions (see Greenwood, 1975, for a survey). The United States is a very mobile country. In any given year, roughly 3 percent of the population move across counties within a given state and an additional 3 percent move across state lines. As noted earlier, the migration flows of workers across areas of the United States are not regulated in any way. However, the cultural and linguistic differences across states in the United States are relatively minor when
contrasted to those that exist between Puerto Rico and the United States, or among the
member states of the European Union.

One key lesson from the academic literature on U.S. internal migration flows is that inter-
state differences in economic opportunities help determine the size and direction of these
migration flows. Internal migrants are more likely to originate in states that have relatively
low incomes and to migrate to states that have relatively high incomes. Similarly, internal
migrants are more likely to originate in states that have relatively high unemployment rates,
and to migrate to states that have relatively low unemployment rates.

Much of the research effort in the U.S. internal migration literature has been devoted to
describing the socioeconomic characteristics of the population of internal migrants. Internal
migrants in the United States tend to be relatively young. For instance, 5 percent of
Americans aged 20-24 years old move across states in any given year, as compared to only 1
percent of Americans aged 45 to 64. Moreover, there is a strong positive correlation be-
tween the probability of internal migration and education. This correlation probably arises
because educated workers have more (and better) information about labor market condi-
tions in other parts of the country. Moreover, the geographic “extent” of the labor market is
probably larger for more educated workers. In other words, more educated workers are more
apt to sell their skills in a national labor market, whereas the demand for less educated work-
ers is more localized.

A number of studies of the U.S. experience also attempt to test the theoretical insight that
international differences in the rewards to skills help determine the skill composition of the
immigrant population. For example, Borjas (1987) reports that measures of income inequal-
ity in the source country, which are a rough proxy for the rate of return to skills, are nega-
tively correlated with the earnings of immigrant men in the United States. Holding con-
stant a vector of observable socioeconomic characteristics (including educational attainment
and age), the point estimates suggest that Mexican immigrant men earn about 4 percent less
than British immigrants simply because of the selectivity effect resulting from Mexico having
a higher rate of return to skills than the United Kingdom. Cobb-Clark (1993) finds a similar
negative correlation between the earnings of immigrant women in the United States and
measures of the rate of return to schooling in the source countries. Finally, Edward Taylor’s
(1987) case study of migration in a rural Mexican village concludes that Mexicans who mi-
grated illegally to the United States are less skilled, on average, than the typical person resid-
ing in the village. This type of selection is consistent with the fact that Mexico has a relatively
high rate of return to skills.

Ramos (1992) also used the Puerto Rican experience to analyze some of these selection
issues. The data reveal that Puerto Rican “immigrants” in the United States are relatively
unskilled. The typical Puerto Rican who migrated to the United States prior to 1975 had 9.4
years of schooling, as compared to 10.8 years for a Puerto Rican who never left Puerto Rico.
The Puerto Rican migration flow, therefore, is negatively selected. This is precisely what one
would expect to find if the rewards to skills were larger in Puerto Rico than they were in the
United States, and in fact this is the case. An additional year of schooling raises earnings by
about 30 percent more in Puerto Rico than in the United States. This differential in the
rewards to skills gives skilled workers in Puerto Rico little incentive to emigrate and hence
the immigrant flow is disproportionately less skilled.
The empirical evidence on the self-selection of immigrants, in fact, provides an interesting explanation of what is perhaps the most important fact about immigration to the United States: the relative economic performance of immigrants in the United States has worsened considerably since 1970. For example, in 1970 the typical immigrant in the country had 10.7 years of schooling, as compared to 11.5 years for the typical native worker. By 1990, the typical immigrant had 11.6 years of schooling, as compared to 13.2 years for natives. The relative decline in the educational attainment of immigrants is partly responsible for a substantial increase in the wage gap between immigrants and natives. In 1970, the typical immigrant earned about 1 percent more than natives; by 1990, the typical immigrant earned 15.2 percent less than natives. 18

Prior to changes in immigration policy enacted in 1965, the allocation of entry visas was determined mainly by the ethnic composition of the U.S. population in 1920, and thus favored immigration from a small number of Western European countries. The 1965 Amendments repealed the “national-origins quota system” and greatly increased the number of immigrants originating in Asian and Latin American countries. The new immigration, therefore, is more likely to originate in countries where the population tends to be less skilled and where the rate of return to skills is relatively high. These factors should contribute to a decline in the relative skills of successive immigrant waves.

3. The Economic Impact of Immigration

A key part of the debate over immigration in most host countries is the concern that immigrants have an adverse impact on the economic opportunities of native-born workers. Remarkably, there was little empirical study of these important questions prior to the 1980s. When Greenwood and McDowell (1986, p. 1750) first surveyed the literature in 1986, they concluded that “substantive empirical evidence regarding the effects of immigration is generally scarce... Little direct evidence is available on immigration’s impact on the employment opportunities and wages of domestic workers.” The situation has changed dramatically since. And although much of the existing literature documents the impact that immigrants have on the native labor market in the United States, a growing number of studies extend the analysis to other countries.

There are two opposing views about how immigrants affect the native labor market. One approach asserts that immigrants have a harmful effect because immigrant and native workers are easily substitutable by employers in the host country. That is, immigrants and natives tend to have similar skills and are suited for similar types of jobs. An influx of immigrants thus reduces the wage of native-born workers. In addition, because of the lower wages now paid to native workers, some native workers find it worthwhile to withdraw from the labor force and native employment also falls.

It is possible, however, that immigrants and natives are not interchangeable types of workers, but that they complement each other in the production process. For instance, some immigrant groups may have very low skill levels and have a comparative advantage in agricultural production. The presence of immigrants increases native productivity because natives can now specialize in tasks where they too have a comparative advantage. This makes natives more valuable to firms and increases the firm’s demand for native-born labor, bidding up the native wage. In addition, some natives who previously did not find it profitable to work will
now see the higher wage rate as an additional incentive to enter the labor market, and native employment also rises.

This conceptual approach suggests a way in which the impact of immigration on native employment opportunities can be measured. If we could observe a number of closed labor markets that immigrants penetrate randomly, we can then relate the change in the wage of natives to the proportion of immigrants in the population. The estimated parameters would summarize the impact of immigrants on native employment opportunities.

Practically all empirical studies in the literature, beginning with Grossman (1982), attempt to replicate this experiment by treating a city or metropolitan area in the United States as the empirical counterpart of the closed labor market in the conceptual analysis. The typical study then correlates a measure of the native wage in the locality on the relative quantity of immigrants in that locality (or the change in the wage in the locality over a specified time period on the change in the number of immigrants in the locality).

Table 2 summarizes the results of the “spatial correlation” approach in the economics literature. The spatial correlations in the United States generally indicate that the average native wage is slightly lower in labor markets where immigrants tend to reside. A typical study finds that if one city has 10 percent more immigrants than another, the native wage in the city with more immigrants is only about 2 percent lower. The evidence also indicates that the numerically weak relationship between native wages and immigration is observed across all types of native workers, white or black, skilled or unskilled, male or female.

Studies of specific labor markets confirm the finding that immigration seems to have little impact even when the market receives very large immigrant flows. On April 20, 1980, Fidel Castro declared that Cuban nationals wishing to move to the United States could leave freely from the port of Mariel. By September 1980, about 125,000 Cubans, mostly unskilled workers, had chosen to undertake the journey. Almost overnight, Miami’s labor force had unexpectedly grown by 7 percent. Card’s (1990) influential analysis of the data indicates that the time-series trend in wages and employment opportunities for Miami’s workers, including its

<table>
<thead>
<tr>
<th>Study</th>
<th>Impact of Immigrants on:</th>
<th>Percentage change in native wage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Altonji and Card</td>
<td>Less Skilled Natives</td>
<td>+.1</td>
</tr>
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<td>(1991, p. 220)</td>
<td></td>
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<tr>
<td>Bean, Lowell, and</td>
<td>Native Mexican Men</td>
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<td>Taylor (1988, p. 44)</td>
<td>Black Men</td>
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<td>Borjas (1990, p. 87)</td>
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<td></td>
<td>Black Native Men</td>
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<tr>
<td>Grossman (1982, p. 600)</td>
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<tr>
<td>LaLonde and Topel</td>
<td>All Natives</td>
<td></td>
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<tr>
<td>(1991, p. 186)</td>
<td>Young Black Natives</td>
<td>-.6</td>
</tr>
<tr>
<td></td>
<td>Young Hispanic Natives</td>
<td>-.1</td>
</tr>
</tbody>
</table>

*Source: Borjas (1994).*
black population, was barely nudged by the Mariel flow. The trend in the wage and unemploy-
ment rates of Miami's workers between 1980 and 1985 was similar to that experienced by
workers in such cities as Los Angeles, Houston and Atlanta, cities which did not experience
the Mariel flow.

In short, the estimated correlations between native wages and the immigrant share in
local labor markets do not support the hypothesis that the employment opportunities of
U.S.-born workers are strongly and adversely affected by immigration. Moreover, the evi-
dence for other host countries is similar. Pischke and Velling's (1994) study of the German
labor market estimates the same types of spatial correlations that dominate the U.S. litera-
ture, and finds a weak negative correlation between the native wage and the fraction of immi-
grants in the work force; and Hunt (1992) reports that, even though 900,000 persons re-
turned to France within one year after the 1962 independence of Algeria (increasing the
French labor force by 2 percent), there was little impact on the affected localities.20

Recent research, however, has begun to argue that the spatial correlation approach does
not replicate the conceptual experiment described earlier and hence does not answer the
question of whether native-born workers are adversely affected by immigration. In particular,
the comparison of economic conditions in different metropolitan areas, as well as the pre-
and post-immigration comparison in a particular metropolitan area, presumes that the labor
markets are closed (once immigration takes place) and that the migration flow is exogenous.

Metropolitan areas in the United States or in other countries are not closed economies;
labor, capital, and goods often flow freely across localities and tend to equalize factor prices
in the process. As long as native workers and firms respond to the entry of immigrants by
moving to areas offering better opportunities, there is no reason to expect a correlation
between the wage of native-born workers and the presence of immigrants.

Suppose, for example, that immigration into California lowers the earnings of natives in
California substantially. Native workers are not likely to stand idly by and watch their eco-
nomic opportunities evaporate. Many will move out of California into other regions, and
persons who were considering moving to California will now move somewhere else instead.
As native workers respond to immigration by "voting with their feet," the adverse impact of
immigration on California's labor market is transmitted to the entire economy. In the end,
all native workers are worse off from immigration, not simply those residing in the areas
where immigrants cluster.21 The same type of labor market re-equilibration can occur as a
result of capital flows. Immigration of less-skilled workers into California might encourage
capitalists who were planning to open up a manufacturing plant in Detroit to move to Cali-
ifornia instead.22

In short, the comparison of local labor markets may be masking the "macro" effect of
immigration. Because native-born labor and native-owned capital respond to immigration,
the labor market impact of immigration cannot be measured by looking at what happens to
local labor markets, but instead must be measured at the national level. A recent study of
time-series data by Borjas, Freeman, and Katz (1997) provides indirect evidence of this macro
impact of immigration. Between 1979 and 1995, immigration increased the supply of work-
ers who were high school dropouts by 21 percent, but increased the supply of workers with at
least a high school diploma by only 4 percent. In short, immigration changed the factor
proportions in the American economy—generating a relative "abundance" of less-skilled
workers. The existing evidence on how relative wages respond to changes in relative supplies
implies that immigration reduced the relative wage of high school dropouts by about 5 percentage points. As a result, about 44 percent of the widening wage gap between high school dropouts and high school graduates can be attributed to the large impact of immigration on the relative number of high school dropouts.

To reconcile the finding that local labor markets in the United States do not seem to be affected by immigration with the possible existence of an economy-wide impact, Filer (1992), Frey (1995), Card (1997) and Borjas, Freeman, and Katz (1997) have analyzed the possibility that the internal migration flows of U.S.-born workers respond to immigration. There is clear and unambiguous evidence of a potential relation between immigration and native migration decisions (see figure 1). The resurgence of immigration in the United States began about 1968, when the policy changes enacted in 1965 became effective. It seems natural, therefore, to contrast pre-1970 changes in the residential location of the native-born population with post-1970 changes to assess the effects of immigration on native location decisions.

Not surprisingly, the share of natives who lived in California, the major immigrant receiving state, was rising rapidly prior to 1970. What is surprising, however, is that the share of natives living in California barely budged between 1970 and 1990, and declined somewhat during the 1990s. Nevertheless, California's share of the total population kept rising continuously until 1990, from 7 percent in 1950, to 10 percent in 1970, to 12 percent in 1990.

**Figure 1** Trends in California's Population, 1950–1998
Percent of U.S. population living in California.

Put differently, an extrapolation of the population growth that existed before 1970—*before the resurgence of immigration*—would have predicted the state’s 1990 share of the population quite accurately. But while natives pouring into the state fueled California’s population growth before 1970, immigrants alone fueled the post-1970 growth.

How should one interpret this fact? One interpretation is that around 1970, for reasons unknown, Americans simply changed their mind and stopped moving to California. In other words, if it were not for immigration, California’s rapid population growth would have stalled in the 1970s and 1980s. An alternative interpretation is that immigration into California essentially “displaced” the population growth that would have occurred in the immigrants’ absence, and this displacement effectively diffused the economic impact of immigration from California to the rest of the country.

The response of California’s population trends to immigration is not unique. Consider what happened to Miami’s population after the entry of the Mariel flow in 1980. Miami’s population grew at an annual rate of 2.5 percent in the 1970s, as compared to a growth rate of 3.9 percent for the rest of Florida. After the arrival of the Marielitos, Miami’s annual growth rate slowed to 1.4 percent, as compared to 3.4 percent in the rest of Florida. As a result of this slowdown in the relative number of persons moving to the Miami area, the actual population of Dade County in 1986 was roughly the same as the pre-Mariel projection made by the University of Florida.

In both the California and the Miami case, therefore, an observer who was familiar with the demographic trends of the region prior to the entry of immigrants could have almost perfectly predicted what the state’s population would have been at some future time. Remarkably, the observer did not need to know that each of these regions was to experience an unexpected and sizable increase in immigration.

Because native workers vote with their feet in the U.S. context, it is likely that comparisons of local labor markets is not the right approach to estimate the economic impact of immigration on the host country’s labor market. This fact has important implications for the analysis of the economic impact of migration flows across the member states of the European Union. The flows of capital, goods, and services will effectively help diffuse the impact of immigration away from the areas most directly affected. A migration flow of less-skilled workers from country A to country B, for instance, might induce capitalists in country C to open up a manufacturing plant in country B—effectively increasing the opportunities available to less-skilled workers in country B, while reducing them in country C. Because of the extensive economic ties that exist across the member states, it would be futile to uncover the effects of migration from one member state to another by simply looking at economic conditions in only those two states. In short, the economic ties that link the members of the European Union help to diffuse the impact of an “immigrant supply shock” over the entire community.

### 4. Implications for the European Union

The freedom of movement of persons—together with the freedom of movement of capital, goods, and services—is a general right within the European Union. In theory, the creation of a single market should create many additional employment and earnings opportunities for the workers in the member states of the EU. In addition, the unimpeded flows of labor,
capital, goods, and service should greatly reduce inter-country differences in economic opportunities within the community.

Migration policy has been and will continue to be an important issue in negotiations between the European Commission and countries applying for accession to the European Union. There is, for instance, the obvious concern that migration flows into the richer member states from the acceding countries would cause downward pressures on wages in the richer states and further exacerbate the serious unemployment problem that already exists in many countries of the EU. In the past, these concerns encouraged EU negotiators to propose a “transition period” during which citizens from the acceding countries would face some restrictions if they wished to migrate within the EU. This transition period, in fact, was part of the agreement that enabled the entry of Greece, Portugal, and Spain into the community. The same concerns over the potential economic impact of migration flows are being raised during the negotiations between the European Commission and acceding countries from Central and Eastern Europe (CEE). And, again, there has been some mention of a transition period during which there would be some restrictions on migration from the CEE countries to the current member states of the European Union.

The concern over the impact of migration flows enters the accession negotiations in less direct ways. It is likely, for example, that the negotiations will have to address the possibility of migration flows originating in third countries. Some of the countries belonging to the first wave of accession from CEE countries (the Czech Republic, Estonia, Hungary, Poland, and Slovenia) could become transit countries for migration flows originating in countries that might be part of the second wave of accession, or perhaps from countries even further east or in Asia. And, in fact, there has been some recognition that a tightening of the external borders might be a required part of the accession agreement.

Other migration issues that might come up during the accession negotiations include: What should be the EU policy towards the migration of third-country nationals now living in the acceding countries? Will the acceding countries be required to sign the Schengen Agreements (which currently have been signed by 13 out of the 15 member states)? The Schengen Agreements obligate the signing member states to remove all border controls among member states of the EU, and to enforce the external borders.

While some of the acceding countries may not object to transition periods or to other types of migration restrictions (very small migration flows, for example, will likely originate in Estonia or Slovenia), other countries, such as Hungary or Poland, may react strongly for both economic and political reasons. There have been significant (legal and illegal) migration flows from Poland towards Western countries in recent years. For example, in 1995 Germany granted 181,600 work permits (for a first employment) to Poles, and an additional 22,000 Poles were recruited under bilateral agreements. Moreover, while migration from Hungary to countries in the EU has been limited in the past, there are regular labor flows between Hungary and the neighboring countries where large numbers of ethnic Hungarians reside. And these migration flows might “spill over” into the European Union soon after accession.

All of these concerns over the link between the accession of countries from the CEE and migration flows into the European Union will play an important role in the accession negotiations. What insights does the existing research in the economics of immigration provide
about the possible size and impact of the migration flows that might either originate in or pass through the first wave of acceding countries in the CEE?

**Implications of Research on Immigration**

In my view, the key implication of the existing research is that migration flows that follow the first wave of accession from the CEE countries will probably be relatively small.

The empirical evidence, for instance, suggests that differences in per-capita income are a key determinant of the size and direction of migration flows. As we have seen, migration flows into the United States originate mainly in countries where per-capita GDP is substantially below that of the United States. The (purchasing-power-parity adjusted) per-capita GDP of the United States, for example, is about 3.5 times that of Mexico, 8 times that of the Philippines, and 25 times that of Haiti.29

It is instructive to contrast these huge differences in economic opportunities with those that exist between France or Germany, on the one hand, and some of the acceding countries from the CEE. As table 3 shows, (purchasing-power-parity adjusted) per-capita GDP in France or Germany in 1996 was over $21,000. In contrast, per-capita GDP in the Czech Republic was around $11,000, and in Hungary and Poland was between $6,000 and $7,000. The important point is that the income differences between the European Community and the acceding countries tend to be smaller (and often, much smaller) than those that generate sizable migration flows to the United States. The negative link between per-capita GDP and emigration rates, therefore, suggests that there is little reason to expect a large bulk of the population in the acceding countries to take advantage of the opportunity to migrate to the current member states of the EU.

The research on the economics of migration also concludes that migration costs create an important disincentive in the migration decision. Even though the acceding countries are relatively near many of the potential destination countries in the EU, there are huge cultural and linguistic differences among these countries. These differences increase the costs of

<table>
<thead>
<tr>
<th>Table 3 Economic Characteristics of Selected Countries in the European Union and in Central and Eastern Europe, 1996</th>
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<td><strong>Country</strong></td>
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<tr>
<td><strong>European Union</strong></td>
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<tr>
<td>France</td>
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<td>Portugal</td>
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<td><strong>Central and Eastern Europe</strong></td>
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<tr>
<td>Czech Republic</td>
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<tr>
<td>Hungary</td>
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<td>Poland</td>
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Sources: The GDP data are drawn from World Bank (1998), and give the purchasing-power-parity adjusted per-capita GDP. The unemployment rate data is drawn from U.S. Central Intelligence Agency (1997).
migration for persons originating in the CEE countries substantially, and generate an important "brake" on any migration flow that might arise.

An additional factor that might deter migration from the acceding countries to the current member states of the Union is the severe unemployment problem that already exists in many of the countries that might be potential countries of destination. In 1998, the unemployment rate was 10 percent in the 15-member European Union, 10 percent in Germany, and 12.4 percent in France. The differences in per-capita income, therefore, do not accurately reflect the differences in "expected" economic opportunities because the chances of landing a job within a reasonable time period after migration are relatively small. Because migration flows respond to differences in economic opportunities, the unemployment problem faced by many EU countries will further discourage migration from the acceding countries. It is important to note, however, that the existing unemployment problem in the EU might not be an important deterrent of migration if the unemployment problem in the CEE countries becomes more severe than in the EU countries. In 1996, the unemployment rate was 11 percent in Hungary, 13 percent in Poland, and 3 percent in the Czech Republic.

The research literature provides some evidence on the role that cultural factors play in generating or limiting migration flows. It is well known, for example, that large ethnic enclaves in the receiving countries act like "magnets," providing information to potential migrants and lowering the costs of separating from the social networks that the migrants have established in the source countries. There are few such magnets in current members of the European Union that could serve to attract immigrants from the acceding countries. Furthermore, a number of opinion polls suggest that most Hungarians would not leave their country under current economic and political conditions. A recent summary of these polling data concludes: "According to the results of public opinion polls carried out repeatedly since 1992, only 3 to 4 percent of the Hungarians would like to work abroad and only 1 to 2 percent to emigrate." 19 Although the findings of public opinion polls regarding migration incentives should be interpreted cautiously, it is of interest that the emigration rate suggested by these polls is relatively small (implying at most 200,000 adult migrants), and that this emigration rate is roughly of the same magnitude as the emigration rate from most of the poorer source countries that feed into the United States.

It would be of interest to use the research findings to determine which types of persons would be the ones who are most likely to migrate from the acceding countries to the current member states. After all, the economic impact of migration on both the sending and receiving countries will depend crucially on the types of persons who choose to join the migration flows. As we have seen, economic research suggests that the skill composition of the migrant flow is determined mainly by differences in the rewards to skills across countries. The variation in the rewards to skills among European countries is relatively small, particularly when compared to the differences in the rewards to skills between the United States and some of the main sending countries to the United States, such as Mexico or the Philippines. The relatively minor differences that exist in the returns to skills between countries in the European Union and the countries in the CEE would tend to suggest that the skill composition of the immigrant flow would then be determined mainly by the costs of migration: only those immigrants who can afford to move would join the population flow. 31 Under most circumstances, this would suggest that the migrant flow would typically be composed of relatively skilled workers, who typically have the resources to fund the move.
In addition to the empirical evidence provided by analysis of migration flows to the United States, there is also some existing evidence with respect to migration flows in the context of the European Union. In particular, note that the income differences between the acceding countries in the CEE and France, Germany, and the United Kingdom are only slightly larger than the pre-accession income differences that existed between the original members of the EU and Greece, Portugal, and Spain. In 1990, for instance, per-capita GDP in France was 80 percent greater than in Greece, 70 percent greater than in Portugal, and 44 percent greater than in Spain.

Although there was a great deal of concern that the accession of Greece, Portugal, and Spain might generate substantial flows, the potential migration flow from the poorer acceding countries never materialized. Consider, for example, what happened to migration to Germany—one of the EU countries with the largest per-capita GDP—after the initial expansion of the EU. The number of Greek nationals living in Germany grew from 356,000 to 363,000 between 1994 and 1996; the number of Spanish nationals remained at about 132,000; and the number of Portuguese nationals grew from 117.5 thousand to 130.8 thousand. Moreover, the number of foreign-born nationals from the acceding countries was roughly stable in the other EU countries. It seems, therefore, that the income differences between the EU and the initial wave of acceding countries, large as they were, were not sufficiently large to generate substantial migration flows. In sum, there is little evidence that migration flows within the (enlarged) European Union have risen rapidly in the past decade, despite the elimination of national borders across countries that offer different economic and social opportunities.

Finally, and perhaps most important, the process of accession into the EU will itself help to self-regulate the migration flows originating in the first wave of acceding CEE countries. Membership in the EU implies not only the free movement of persons, but also the free movement of capital, goods, and services. As I stressed earlier, these additional economic links among member states can significantly speed up the convergence process, that is, the equalization of economic opportunities across member states. In an important sense, therefore, accession into the EU implies that persons need not move to take advantage of better economic opportunities elsewhere. The movement of capital and goods can perform this job just as well. The convergence process, therefore, will further reduce the income differentials that help drive the migration process, and further lower the chances that accession to the EU will generate sizable migration flows in the long run.

Although the implications of the existing research for potential migration flows from the acceding country to the EU are clear, there are a number of issues that must be taken into account and that may qualify the nature of these conclusions.

For example, the discussion has not taken into account the possibility that the acceding countries might serve as "transit stops" for persons who now reside in countries further east to gain a foothold that they can use to enter the European Union. Two distinct issues fuel this particular concern. First, there are relatively large populations of "ethnic Hungarians" now residing outside Hungary (particularly in Romania), and of "ethnic Poles" now residing outside Poland (particularly in the Ukraine). If the ethnic background of these persons entitles them to certain citizenship or residence rights in the acceding countries, ethnic Hungarians or ethnic Poles could potentially use these rights to establish residence in Hungary or Po-
land, and then migrate to other members states of the European Union, countries that offer far better economic opportunities than the places where they now live.

Although a complete evaluation of the potential for such types of ethnic flows to occur requires a detailed discussion of the history of these types of population flows and an analysis of the cultural and social links that connect the ethnic populations in Romania and the Ukraine with the populations of Hungary and Poland, respectively, it is relatively easy to evaluate the case of the ethnic Hungarians. There are probably 3 million ethnic Hungarians (persons who have a Hungarian mother tongue) living in countries surrounding Hungary, with about 2 million of these ethnic Hungarians living in Romania. It is worth noting that the bulk of these ethnic Hungarians could have chosen to move to Hungary after the collapse of the East Bloc and the destabilizing period that followed the fall of Ceaucescu. But the large bulk of the ethnic Hungarians chose not to move at that time. Part of this reluctance to migrate can be attributed to the fact that they ethnic Hungarians living in Romania are, in fact, living in the areas where they were born and grew up, and have little “connection” with the physical territories that make up modern Hungary. In other words, they are ethnic Hungarians not because they were born in modern-day Hungary, but because of the way that maps were drawn in Central Europe. It also seems to be the case that incomes are narrowing between Hungarians in Hungary and ethnic Hungarians in Romania. It seems to be the case, therefore, that there are important factors at work that deter the migration of ethnic Hungarians into Hungary, and presumably into the European Union. Moreover, the EU can develop policies designed to minimize the potential of this problem. For example, the negotiations might wish to formalize the idea that the “freedom of movement” extends only the Hungarian and Polish nationals living only in Hungary or Poland, and do not extend to persons who do not have such citizenship, regardless of their ethnic background.

There also exists the possibility that the Central and Eastern European countries in the first wave of accession might be used by persons from “third” countries, either further East or in Asia, as transit points. There are a number of factors to suggest that one should be concerned about this possibility. For instance, there seems to be an increasing tendency to traffic in the smuggling of illegal aliens in the region. The available evidence is much too sparse to allow a serious investigation of whether there would be an increase in the unauthorized entry of third-country nationals into the European Union through this mechanism. After all, by their very nature, these illegal flows are hard to detect and to analyze statistically. Nevertheless, a number of policy options, noted below, may be available to the European Union and to the acceding countries to restrict this type of migration flow, such as requiring much more careful enforcement of external borders.

Finally, any analysis of the link between accession and migration must take into account the special situation of the Gypsy population in Hungary. About 4 percent of the Hungarian population is of Gypsy origin, roughly 400,000 persons. Although the stereotypical perception is that Gypsies are quite mobile within a particular geographic data, there is little data or empirical analysis documenting and investigating the existing migration patterns of this population. By law, the Hungarian government does not collect any data on ethnic background that can be used to identify the number, let alone the location or migration behavior, of the Gypsy population.

Despite our lack of information about this population, one should recognize that the accession of Hungary into the European Union creates a “window of opportunity” for the
Gypsy population to expand its migratory behavior over a wider territory. The dearth of research on the socioeconomic characteristics of the Gypsy population, and on the cultural and social networks that link the Gypsies with other groups, suggest that any predictions of the migration patterns of Gypsies in the post-accession period will likely contain a great deal of error. It is clear, however, that the Gypsy population raises a number of potentially important questions that should be documented and researched closely as the accession process continues.

In fact, the data problems that hamper research on migration in the context of the European Union extend far beyond the Gypsy population. In comparison to the United States, there has been relatively little effort either in terms of data collection or in terms of ongoing research activity, to document and analyze the migration flows that occur within the European Community. The migration data are often not comparable across countries, and some of the key data, such as data on the skill composition of the migrant flows, simply does not exist. Moreover, many of the research questions that have driven the immigration literature in the United States have yet to be analyzed seriously in the context of the European Union.

Part of this data problem arises because most of the member states have not had as long a history of receiving immigrants—and analyzing the impact of immigration—as Canada and the United States. In fact, one key policy recommendation is to initiate a more systematic effort to collect (standardized) migration data in the context of the European Union and to develop a research program that provides an ongoing analysis of the impact of these flows on both sending and receiving countries. This research effort would greatly advance our understanding of the role that migration plays in the economic life of the European Union.

**Additional Implications**

The Schengen Agreement effectively permits member states in the European Union to design their own type of "guest worker" programs by engaging in bilateral contracts with other countries. In theory, these temporary immigrants can travel freely within the EU, but their work permit is only valid in the country that negotiated their entry.

In an important sense, the temporary employment arrangements allowed by the Schengen Agreement are not completely consistent with the spirit of economic cooperation that lies at the heart of the European Union. A *de facto* (and unregulated) temporary worker program, after all, gives the member country that chooses to import large numbers of temporary migrants from other countries a certain type of economic advantage in the market place. After all, the guarantees made by the social welfare system of the member states do not typically extend to the temporary immigrants, so that it is cheaper to use these migrants to produce some goods and services.

The accession into the EU of the countries that are now the source of many of these temporary workers (such as Poland) raises an important question. Since the economic links between the acceding countries and the EU will help to equalize opportunities across the member states, will the countries that want to continue to import (cheaper) temporary workers have to recruit in countries that lie further east (or perhaps in other continents)? A second long-run problem is that temporary migration flows—such as the flows of guest workers into Germany and other European countries in earlier decades—are seldom temporary. Regardless of the many precautions taken by the receiving countries, many temporary work-
ers often become permanent workers. Since the Schengen Agreement lets each member
country develop its own temporary worker policy, it is reasonable to suspect that particular
types of temporary worker policies can have a substantial impact on migration flows within
the European Union in the future.

There is yet another way in which different migration policies pursued by different mem-
ber states can have a substantial impact on long-run migration flows within the European
Union. Each member state, after all, is free to choose the level of resource it wishes to devote
to controlling their external borders and to the detection of illegal workers in the labor
market. By deciding on the level of enforcement that will be used to address the problem,
the member states can effectively choose an "optimal" number of illegal immigrants. In ef-
fect, these de facto immigration policies give the member states an additional "degree of
freedom" for competing in the market place.

5. Conclusion

There has been a growing research interest on the economics of immigration in the past two
decades. This renewed interest can be traced back to the resurgence of large immigrant
flows in many parts of the world, particularly the United States. The growing research litera-
ture has greatly increased our understanding of the factors that induce persons to migrate
across countries, and of the impact that this population flow has on economic conditions in
the receiving countries.

This paper summarized some of the key research findings, and applied the lessons from
this research to the potential migration problem faced by countries in the European Union.
As the EU expands, there is some concern that wage differences among the current member
states and the new entrants, such as Hungary and Poland, may motivate many workers to
migrate into the European Union. These concerns are sufficiently serious that they may play
an important role in the negotiations between the European Commission and some of the
Central and Eastern European countries applying for accession. Overall, the research evi-
dence suggests that the size and direction of migration flows are strongly determined by
international differences in economic opportunities, and that the migration flows from the
acceding countries to the current member states of the European Union will likely be rela-
tively small.

It is worth concluding by re-emphasizing that the European Union links the member
states not only through population flows, but also through flows of capital, goods, and ser-
vices. These additional flows accelerate the trend towards equalization of economic opportu-
nities among the member countries. In effect, these additional flows help remove one of the
key reasons that motivate persons to migrate in the first place. In the presence of these flows,
therefore, it seems that the concern over the potential of large migration flows has been
overly exaggerated.
Notes

2. A detailed technical discussion of the migration decision is given in Borjas (1994).
3. This behavioral assumption does not imply that all persons would choose to move to the same country. Because different persons might value the cultural and political characteristics offered by a particular country differently and because different labor market conditions will probably reward different types of workers differently, the "optimal" migration sorting implies that different types of people will move to different types of countries.
6. World Bank (1998). The (purchasing-power-parity adjusted) per-capita GDP of the United States in 1996 was $28,023, while that of Mexico was $7,983.
8. Psacharopoulos (1973) estimates the rate of return to education for many countries.
10. To calculate the rate of emigration to the United States, the denominator has to include the entire population of persons born in a particular source country, including those that have migrated elsewhere. These types of data are difficult to obtain.
11. The regression equation is estimated in a sample that contains 75 source countries, and is weighted by the size of the immigrant flow from each country. The standard error of the per-capita GDP variable is .06; the standard error of the distance variable is .09; and the R-squared of the regression is .48. See Borjas (1987) and Jasso and Rosenzweig (1987) for more detailed analyses of these types of statistical models. The more detailed studies expand the regression equation to incorporate many other factors, including measures of English language proficiency in the source country's population and indices of trade between the source country and the United States. The key results stressed here are not affected by the use of a more general regression specification.
16. Borjas, Bronars, and Trejo (1992) provide evidence that there is also some self-selection going on, in the sense that the most skilled workers tend to migrate to states that offer the relatively highest rewards to skills.
17. Barrett (1993) shows that immigrants who enter the United States using a family reunification visa have relatively lower earnings when they originate in countries where the income distribution has a large variance.
18. These data are drawn from Borjas (1995).
19. Many of these studies also find a significant negative correlation between immigration and the immigrant wage. For instance, Grossman (1982) reports that a 10 percent increase in the number of immigrants reduces the immigrant wage by 2 percent, while Altonji and Card (1991) conclude that a 10 percent increase in the number of immigrants reduces the immigrant wage by at least 4 percent.
20. Carrington and de Lima (1994) report inconclusive results when they analyze the impact of the 600,000 refugees who entered Portugal after the country lost the African colonies of Mozambique and Angola in the mid-1970s, increasing Portugal's population by almost 7 percent.
21. Note also that immigrant flows are unlikely to be exogenous because immigrants probably choose to enter the localities where they have the best opportunities.
22. In other words, the spatial correlations typically estimated in the literature have no structural interpretation; they do not estimate the demand function for native workers, nor do they estimate the reduced-form impact of immigrants on native employment opportunities. Some studies use the industry, rather than the local labor market, as the unit of observation and analyze native employment and wages as immigrants penetrate a particular industry (DeNew and Zimmermann, 1994; Waldinger, 1993). The correlations are sometimes interpreted in terms of a displacement effect. As with studies of local labor markets, these correlations have no structural interpretation as long as workers and firms can move across industries.
23. Studies of labor demand suggest that the wage ratio of unskilled to skilled workers falls by 32.2 percent when the ratio of unskilled to skilled workers increases by one unit (from, say, one unskilled worker per skilled worker to two unskilled workers per skilled worker). To obtain the impact of immigration on the relative wage, one multiplies this "relative wage elasticity" of -.322 by the change in factor proportions, which is approximately 15 percentage points. See Borjas, Freeman, Katz (1997), pp. 58-50, for additional details.

24. The relative wage of high school dropouts fell by 11 percentage points during the period.


26. The decline in the 1990s is mainly attributable to the deep recession that hit California around 1990.


31. Because the starting point in Eastern European countries was a very compressed earnings structure, there has been a gradual (relative) increase in the returns to skills and a widening of income inequality in these countries in the 1990s. It is likely that over time the returns to skills and income inequality in the CEE will more closely resemble what currently exists in Western European countries.


34. The historical experience of the United States also suggests that relatively large migration flows can occur when there are important political shocks in sending countries. The immigration of 572,000 Cuban refugees and 644,000 Vietnamese refugees in recent decades, for instance, can be traced directly to the political upheavals in these countries. Barring such cataclysmic political shocks, therefore, there is little reason to suspect that huge numbers of refugees will originate in the acceding countries and move into the European Union.


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