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Introduction and Summary

George J. Borjas and Richard B. Freeman

After decades during which the influx of immigrants to the United States declined relative to the growth of the native work force, immigration has once more become a major factor in the U.S. labor market. Since the 1930s, the immigrant flow has risen by about one million immigrants per decade. By the 1980s, about 600,000 persons were legally admitted to the United States per year, which added approximately 400,000 workers to the labor force annually. In addition, a steady flow of illegal entrants produced over three million undocumented aliens who qualified for amnesty under the provisions of the 1986 Immigration Reform and Control Act. Even though only 5 percent of the U.S. population was foreign born in 1970, by 1988 over 9 percent of the labor force was foreign born. As a result of these trends and the concurrent slowdown in the growth of the native work force, immigrants accounted for more than one-quarter of new labor market entrants between 1980 and 1988. Key provisions of the 1990 Immigration Act and the continued influx of illegal immigrants, together with slower growth of the female work force and other demographic changes, ensure that the representation of immigrants in the U.S. labor force will increase through the beginning of the twenty-first century.

Who are the immigrants? How do they perform in the U.S. labor market? How do they affect the employment opportunities of natives? How do the labor market effects of immigration compare to those of international trade? What does immigration to the United States do to the economies of the sending countries or regions?

These questions, which are central to any assessment of the economic effect of immigration, guided this and the preceding NBER research project on

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immigration. The first research report (Abowd and Freeman 1991) analyzed the effect of the post-1965 wave of immigration on the U.S. labor market and, for comparative purposes, studied immigration in two other major immigrant host countries, Canada and Australia. The current study provides additional analyses of the economic effects of immigration on the United States through the late 1980s and explores the links between immigration to the United States and selected source area economies. Both research projects concentrated on the "new immigration" that followed the 1965 immigration act, which scrapped the national origins quota system and thus greatly altered the number and characteristics of immigrants.

1. The New Immigration

Prior to 1965, immigration to the United States was guided by the national origins quota system. Under this system, which dated from the 1920s, almost all available visas were given to applicants from northern and western European countries. The 1965 Amendments to the Immigration and Nationality Act removed the national origin quotas and made family reunification the main objective of immigration policy. As a consequence of the 1965 Amendments and of major changes in economic and political conditions in source countries relative to conditions in the United States, the national origin mix of the immigrant flow entering the United States has changed substantially over the past few decades.

Table 1 lists the "top ten" source countries during the 1950s and during the 1980s. There is a substantial amount of turnover in this list: only three coun-

Table 1 "Top Ten" Source Countries in the 1950s and 1980s

Rank	1950s		1980s	
	Source Country	Size of Flow (1,000s)	Source Country	Size of Flow (1,000s)
1	Germany	477.8	Mexico	975.7
2	Canada	378.0	Philippines	477.5
3	Mexico	299.8	China	306.1
4	U.K.	202.8	Korea	302.8
5	Italy	185.5	Vietnam	266.0
6	Cuba	78.9	India	222.0
7	Austria	67.1	Dominican Republic	209.9
8	Netherlands	52.3	Jamaica	184.5
9	France	51.1	U.K.	140.1
10	Ireland	48.4	Cuba	135.1
Total flow from top ten countries (%)		73.2		55.5

Source: U.S. Immigration and Naturalization Service (1990, table 2).

tries that were important sources of immigration during the 1950s remained so during the 1980s (Mexico, Cuba, and the United Kingdom). During the 1950s, 53 percent of immigrants originated in Europe, 25 percent in Latin America (i.e., the Western Hemisphere except for Canada), and only 6 percent in Asia. In contrast, during the 1980s, only 11 percent of immigrants originated in Europe, whereas 42 percent came from Latin America and 42 percent from Asia. While lifting restrictions on immigration from countries in Asia allowed the migration of Asians to occur, and the cutback in the number of visas for western European countries reduced the potential size of the immigrant flow from those countries, U.S. immigration policy is not the sole cause of changes in the national origin mix of immigrants. Availability of visas aside, potential migrants come to the United States on the basis of the benefits and costs of such a major decision in their lives. Economic and political conditions in the source countries and in the United States (as well as opportunities available in other immigrant-receiving countries) are potentially important determinants of these decisions and thus of the national origin mix of the immigrant flow.

In addition to the legal immigrants, a sizable flow of illegal aliens entered the United States in the 1970s and 1980s, primarily from Mexico. As noted above, in 1986 Congress enacted the Immigration Reform and Control Act (IRCA), which gave amnesty to over three million illegal aliens, indicating that at least that many had entered illegally, mostly since the mid-1970s. Although IRCA included employer sanctions designed to deter the future entry of illegal immigrants, the flow of illegals did not appear to have slowed substantially by the end of the 1980s. In 1989, for example, the Border Patrol apprehended 954,000 persons attempting to enter the United States illegally, about the same number as it apprehended in 1982.

The 1990 Immigration Act introduced several provisions designed to alter the size and composition of the immigrant flow. By 1995, the number of legal immigrants admitted annually (excluding refugees) will increase from about 500,000 to 675,000. While the bulk of these visas (480,000) will be awarded to relatives of persons already residing in the United States, the number of visas awarded to persons on the basis of skills will increase greatly: from 54,000 to 140,000. In effect, about half the additional visas will be awarded to skilled workers. Finally, to generate a more ethnically diverse foreign-born population, the remaining 55,000 visas will be allocated to persons originating in countries that have sent few immigrants to the United States since 1965. This provision is designed primarily to benefit visa applicants from European and African countries.

Immigration reduces the size and alters the skill endowments of the labor force available to the source countries, with positive or negative consequences depending on the state of their labor markets. In some cases, immigration to the United States has greatly depleted the population of small source areas in Central America and in the Caribbean (where about 10 percent of Jamaicans

and one-third of Puerto Ricans, who have citizenship in the United States, have chosen to emigrate). Even among larger countries, immigration to the United States can have a nonnegligible effect on the size and composition of the labor force, particularly among selected skill groups. In the 1980s, 1.4 percent of Mexicans (most of them unskilled) migrated legally, and perhaps as many illegally, to the United States.¹ While relatively few Indians have come to the United States, virtually all Indian migrants have been college graduates, many of them doctors. For a complete analysis of the economics of immigration, it is necessary to consider the effects of immigration not only on the economy of the United States but also on the economies of the source areas. This volume seeks to do this for selected areas where the effect of immigration is likely to be large.

2. The NBER Project

Motivated by the changing national origin composition of the immigrant flow admitted to the United States and by the fact that immigration affects the economic well-being of workers in source countries as well as in the United States, the NBER undertook the research project whose results are presented in this volume.

Concern with both sides of the immigration “trade” led project researchers to develop data on the labor force and economies of the source countries or areas and also to analyze data from the U.S. Census of Population, which has long been the mainstay of information on immigrants to this country, and from various Current Population Surveys that include questions on immigration. In some cases, this involved adding variables about aggregate economic or demographic conditions in source countries to the Census files. In one case, it involved linking Census and labor force survey files from the source area, Puerto Rico, which has a similar statistical base as the United States proper, to the relevant U.S. data sets. In another case, the analyst exploited available surveys on the labor force in El Salvador and conducted field and survey research in the country. The use of computerized data sets on immigrants in the United States and on persons in the source countries is rare in the analysis of immigration, as any survey of the voluminous U.S. research makes clear. Such data sets allowed this NBER project to derive firmer conclusions about the characteristics and economic effects of immigrant flows than could possibly be reached from data sets covering only the United States or any single source country.

Finally, to deal with issues of assimilation of immigrants from different countries to the United States, researchers combined data from decennial Censuses to create “synthetic cohorts”—persons in a given age group in one Cen-

1. In the 1980 Census, counted and uncounted illegal immigrants from Mexico exceeded the number of legal immigrants (see Borjas, Freeman, and Lang 1991).

sus and those in that age group plus ten in the succeeding Census. In investigations of how immigrants progress in the economy relative to natives, synthetic cohorts offer a research tool that is superior to the more commonly used cross-sectional comparisons between immigrants who came in one period and those who came years earlier or later.

The NBER research project paid considerable attention to migration between Puerto Rico and the mainland even though (or perhaps more properly because) Puerto Rico is not a foreign country but rather an integral part of the United States. Migration from Puerto Rico, which has a different language and culture than the mainland, is free from political impediments and thus provides a natural experiment to assess individual decisions to migrate, absent the need for entry or exit visas. If economic analysis cannot account for Puerto Rican migration decisions, its relevance to immigration from other areas, where the immigration decision is distorted by both U.S. immigration policy and source-country emigration policy, is subject to question.

The analysis of the economic effects of immigration on source economies focused on potentially instructive “natural experiments” where the outflows to the United States were large: Puerto Rico, which has a larger proportion of persons born outside the United States residing in the country than any other locale; and El Salvador, a small country whose migrant flows are sufficiently sizable to have potentially large economic effects. The initial research design envisioned that the political problems in El Salvador—repression and civil war—might give an “exogenous” shock to immigration that could help identify its effects on the economy and that the resultant immigration would differ greatly from immigration from Puerto Rico. In fact, one of the major results of the analysis is that, despite some differences in the pattern of immigration from these areas, economic incentives rather than exogenous political factors appear to dominate migrant flows from both areas.

In capsule form, the research in this volume adds to our stock of knowledge about immigration in several areas. It shows that labor market opportunities in source areas relative to opportunities in the United States help determine the magnitude and composition of immigrant flows (Borjas; Ramos; Funkhouser; Castillo-Freeman and Freeman). It also shows that the changing national origin mix of immigrants over time—that is, the greater influx of persons from less-developed countries with lower education and income levels than the traditional European source countries—is the prime determinant of the decline in the skills of immigrants relative to native workers in the United States (Borjas).

The research on assimilation shows that immigrants assimilate fairly rapidly in the U.S. job market, with the result that, a few years after arrival in the United States, immigrants earn roughly as much as comparably skilled native-born workers of the same national origin, but not necessarily as much as the typical native worker (LaLonde and Topel). This finding reinforces the importance of the initial skill composition of immigrant flows in calculating their

contribution to the nation's skill endowment. The research on fertility behavior yields an even more striking example of "assimilation"; it finds that immigrant women from high-fertility countries have essentially the same fertility behavior as native American women (Blau). The low fertility of these immigrants prior to immigration suggests a strong element of selectivity or pre-adaptation to the expected U.S. economic conditions.

With respect to the economic effects of immigration on source economies, immigration to the United States is a major element in the economic development of these areas (Funkhouser; Castillo-Freeman and Freeman) and thus a potentially important policy tool to spur development. In addition to the direct effects of immigration on the size and composition of the labor force, remittances from immigrants in the United States to the source countries induce changes in the labor supply behavior of remaining family members.

On the U.S. side, the increasing number of immigrants with less than a high school education appears to have substantially affected the job market for the declining number of natives in that schooling category (Borjas, Freeman, and Katz). This finding suggests that the effect of immigration on the earnings and employment opportunities of native-born workers is much greater than was reported in the first NBER volume (Abowd and Freeman 1991), which based its assessment on the relatively small differences in the economic position of natives across localities with differing immigrant flows. One possible reason for the difference in results is that natives adjust their migration behavior to the influx of immigrants, with the result that total labor supplies in immigrant-intensive areas are little affected by immigration (Filer).

All told, this volume shows that immigration links the labor markets of the United States and of major source areas in important ways, ways that affect the well-being of workers in both the destination and the source economies. Thus, the economic development and human capital formation policies of the major source countries should be matters of concern to Americans as well as to citizens of those countries sending large numbers of immigrants to the United States.

We summarize next the specific findings that underlie these broad conclusions and the evidence and logic on which they are based. Some of the findings are new because previous research either did not address the issue or addressed it with less-adequate data than were available to this research project. Some of the findings disagree sharply with earlier work. When that is the case, we note the disagreement, try to pinpoint the causes of the disagreement, and consider which results appear to be more valid.

Source Countries and Immigrants to the United States

1. *The changing national origin mix of immigrant flows is the major reason for the decline in the skills of immigrants relative to natives.*

At the time of entry into the United States, the typical worker who migrated in the late 1950s had about 0.4 years more schooling than natives. By the late

1970s, the typical newly arrived immigrant had 0.7 years fewer schooling than natives (Borjas, table 1.4). In terms of earnings, the late-1950s immigrant earned 13 percent less than natives at the time of arrival, while the late 1970s newly arrived immigrant earned nearly 30 percent less than natives.

A single factor, the changing national origin mix of the immigrant flow, is responsible for most of this decline in relative immigrant skills (Borjas). This conclusion is based on two facts. First, the skills and labor market performance of immigrants vary significantly by national origin. For instance, the 1980 Census reveals that newly arrived immigrants originating in the United Kingdom have 2.5 years more schooling and earn about 22 percent more than natives, while newly arrived immigrants from Mexico have 6.1 fewer years of schooling and earn about 61 percent less than natives (Borjas, table 1.8). Second, the national origin composition of immigrant flows has shifted from the more-developed to the less-developed countries (see table 1 above).

Given large and reasonably constant differences in the education and U.S. labor market performance of immigrants from different countries, the contribution of the changing national origin mix to the decline in relative immigrant skills can be obtained simply by applying different distributions of immigrants by country to any particular year's difference between the education and earnings of natives and immigrants by country. The result of such calculations clearly shows the massive effect of the actual change in the source country mix on the average labor skills of immigrants.

2. Migration from source areas to the United States is consistent with an economic analysis of immigration based on labor supply considerations.

As noted above, migration from Puerto Rico to the United States presents a natural experiment for testing economic theories of immigration because Puerto Ricans face no quotas or legal impediments to moving to the mainland. Ramos applies the self-selection model of immigration introduced by Borjas (1987b) to the Puerto Rican case and finds striking confirmation of the model's stress on the effect of differing rates of return to skills between source and destination areas on the skill composition of migration flows.

According to the model, highly skilled persons migrate to countries that offer a relatively high rate of return to their skills, while the less skilled prefer countries with more egalitarian income distributions. Since Puerto Rico's income distribution offers a much higher payoff to skills than does that of the mainland United States, the analysis implies that highly skilled Puerto Ricans will, on average, prefer to remain in Puerto Rico and that the less skilled will migrate to the United States. Ramos makes use of information on the education and earnings of migrants to the United States and of residents in Puerto Rico, distinguishes between those who never migrated and return migrants, and finds that migrants to the United States are less skilled than nonmigrants and that return migrants tend to be the most-skilled workers from the initially unskilled flow.

In a related analysis of the Puerto Rican case, Castillo-Freeman and Free-

man explore the potential effects of one policy innovation—enactment of high minimum wages—on immigration to the United States. They show that the introduction of a U.S.-level minimum wage reduced employment substantially on the island and that immigrants to the United States consisted disproportionately of persons lacking work on the island and of those with characteristics that made them especially subject to the minimum. They found that the tendency for migrants to be less educated than nonmigrants developed in the 1970s as the Puerto Rican minimum rose toward U.S. levels and as return to schooling rose on the island relative to the mainland.

Funkhouser's analysis of migration from El Salvador lends additional support to the notion that economic factors are critical in determining immigration flows. While noting the difficulty of differentiating the effects of structural economic problems from civil war-related political repression on immigration, he attributes much of the immigration flows to economic conditions *per se*. Here, however, it is the more educated who come to the United States—a fact that can be attributed to the massive difference in income levels between El Salvador and the United States and the information and transportation costs of migration for the less educated. Castillo-Freeman and Freeman's finding that those at the very bottom of the educational attainment ladder in Puerto Rico are also unlikely to migrate in large part because they speak no English helps reconcile the Puerto Rican and Salvadoran cases.

3. Immigration and trade alter U.S. factor proportions in the same direction: increasing the supply of less-skilled labor.

The classic Heckscher-Ohlin model of trade predicts that flows of factors and goods will operate in the same direction to equate relative factor proportions across economies. The United States has an exceptionally large proportion of highly educated workers, suggesting that trade and immigration should act to increase the relative number of less-skilled workers. Borjas, Freeman, and Katz show that this is in fact the case in their comparisons of the “implicit skill composition” of trade and the educational composition of immigrants. On the immigrant side, the greatest number of immigrants are persons with less than a high school degree. On the trade side, import-intensive industries tend to employ relatively low-skill workers, including many immigrants.

Assimilation into the United States

4. Immigrant earnings may reach parity with those of their native-born ethnic counterparts, but not with the earnings of the typical native-born worker.

As new entrants to the U.S. labor market, immigrants invariably start their work lives in the United States at a disadvantage compared to otherwise similar natives (i.e., natives with the same educational attainment, age, etc.). The speed with which immigrants assimilate to the labor market, measured by the rate at which their earnings catch up to the earnings of natives as they accumulate labor market experience in the United States, has long been a key

indicator of the ability of the economy to absorb immigrants and of immigrants' ability to adapt to U.S. economic conditions. Because a single cross section cannot disentangle the economic effects of assimilation from those of changes in the unmeasured characteristics of cohorts who come to the country at different times (Borjas 1985), the importance of assimilation can be determined only by analyzing longitudinal data or "synthetic" cohort data created from a series of Census cross sections.

LaLonde and Topel show that the extent of economic "assimilation" depends critically on the groups of native workers to which immigrants are compared. From 1970 to 1980, new immigrants did not catch up with typical U.S. workers in terms of earnings. By contrast, they did catch up with native-born workers from similar ethnic groups. In addition, the state of the labor market when immigrants arrive can also affect how well they do. Less-skilled immigrants are likely to do worse if they come to the United States when the job market for the less skilled is deteriorating, as in the 1980s, than if they come when that job market is improving; similarly, how well skilled immigrants are likely to do will depend in part on the market for skills when they enter the country.

LaLonde and Topel's evidence differs from Borjas's (1985) decomposition of immigrant wage growth into cohort and assimilation effects. Borjas generally finds a smaller rate of earnings adaptation within national origin groups. The related questions of how best to define economic assimilation and how best to measure it have attracted substantial attention. Recent work by Smith (1991) and Friedberg (1991) argues that the intercensal comparisons that are the basis of the findings both in Borjas and in LaLonde and Topel are subject to error because they fail to control for the age at which persons migrated. For any given time-of-arrival cohort, the composition of the working-aged sample will change across Censuses because later Censuses include a larger number of immigrants who migrated as children and who thus did not go through the same process of labor market adaptation as persons who migrated as adults. The evidence shows that rates of growth of earnings of immigrants differ depending on whether those immigrants came as children or as adults. Persons who came to the United States as children look similar to native-born workers. Persons who migrate as adults do not experience that much economic assimilation. Mixing the two groups overestimates the rate of growth of immigrant earnings relative to native earnings.

5. The fertility rate of immigrant women is similar to the fertility rate of native-born women.

Earnings assimilation, while important, is not the only way in which immigrants adjust to the U.S. economic conditions. Blau compares the fertility of immigrant women in the United States to average rates of fertility in those women's source countries and to the fertility of similarly aged native-born women. The initial expectation of the study was that immigrant fertility rates would lie between those in the source country and those in the United States,

indicating partial adjustment of fertility over time, consistent with Ben-Porath's (1973) findings for Israel. In fact, the results are much more striking. The average married immigrant woman had 2.4 children in 1980, compared to 2.2 children for similarly aged women born in the United States and to an average of 5.5 children for a woman residing in the typical source country (Blau, tables 4.1 and 4.3).

Even prior to migrating to the United States, the fertility behavior of immigrant women tends to resemble that of native-born women, not that of their compatriots who remain in the source countries. After arriving in the United States, immigrant women make further adjustments to their fertility, so that after a few years in the United States the number of children borne by immigrant women is quite similar to the number borne by native-born women. This remarkable similarity in fertility behavior raises important questions about the way in which the flow of immigrant women is self-selected or adapts to expected U.S. economic conditions even in their home country and about the extent to which immigrant women learn and adapt to the U.S. environment after arrival.

Repercussions of Immigration for Source Countries

6. Immigration to the United States has major direct and indirect effects on the labor markets of small source areas.

The most immediate and direct effect of immigration to the United States on the labor market of a small source economy is through the reduction in the labor supply of migrants. However, there are also important indirect modes of adjustment that can augment or offset the direct reduction in labor supply (Funkhouser). Remittances from immigrants raise the income of family members remaining in the source country, with the standard income effect of reducing the family's labor supply. At the same time, the family may substitute for the migrant in the local labor market, which is particularly likely if wages or other earnings opportunities rise owing to immigration or if the reduction in family size "frees up" time previously devoted to household production. In El Salvador, the income effect on family labor supply caused by remittances was significant, dominating other effects, with the result that the reduction in labor supply exceeded the direct decline due to immigration. Because of economic dislocation resulting from civil war, these effects have eased the unemployment problem rather than creating a labor shortage problem.

In Puerto Rico, the flow of immigrants to the United States was so large as to alter significantly the island's capital/labor ratio and thus to affect the overall level of real earnings. Castillo-Freeman and Freeman estimate that a minimum of one-fourth and probably much more of the long-term upward trend in real earnings in Puerto Rico is due to migration to the United States. Moreover, since migration was concentrated among the less educated and those lacking jobs, the migrant flow also reduced the rate of unemployment on the island.

7. *By providing an important mode of labor market adjustment, immigration alters the set of policy tools available to governments in source and destination countries.*

When a large number of persons migrate to another locale but leave family members behind, their remittances can contribute substantially to the nation's supply of foreign currency. Funkhouser reports that remittances to El Salvador were two-thirds as great as exports and equal to the entire trade deficit, making immigration more important than any single industry in generating foreign currency. This produced a major parallel currency market in the country, which limited the ability of the Salvadoran government to control the money supply. In Puerto Rico, migration to the United States made the imposition of high minimum wages possible because it provided an outlet beyond unemployment for those displaced by the minimum. For the United States, immigration offers a mode of adjusting the skills of the work force to changes in the domestic economy, as in the 1990 effort to increase the influx of skilled migrants through additional visas issued on the basis of skills. However, such fine-tuning of the flows has traditionally been weak owing to the focus on family reunification in awarding visas and the lack of success in preventing sizable illegal flows.

Economic Repercussions for the United States

8. *In the 1970s, native migration flows offset immigration to local labor markets, suggesting that the internal migration decisions of native workers may respond to the pattern of immigration among areas.*

Immigrants typically concentrate in relatively few source cities, such as Los Angeles, New York, and Miami. In the previous NBER research volume, Bartel and Koch (1991) found that immigrants tended to stay in these initial areas rather than disperse across the country. This concentration of immigrants in limited areas has led many researchers to assess the effects of immigration on the earnings and employment opportunities of native workers by examining differences in native wages between cities with many immigrants and those with few immigrants. These studies, for the most part, find an insignificant correlation between the presence of immigrants in a locality and the earnings of natives in that locality (Grossman 1982; Borjas 1987a; Card 1990; Altonji and Card 1991; Butcher and Card 1991; LaLonde and Topel 1991).

One possible explanation of this result is that natives attenuate the negative effect of immigration by choosing to reside in other localities. Using 1980 Census data, Filer finds a negative correlation between the in-migration rates of natives to particular cities and the presence of immigrants in those cities. This result suggests that natives respond to the increase in immigrant labor supply by moving to other cities. In effect, the internal migration of natives dissipates the effect of immigration on particular labor markets and makes it difficult to determine the effects on immigration by spatial analyses.

These results are consistent with Card's (1990) finding that the Mariel Boat-

lift had no noticeable effect on the population growth in Miami, but they are not consistent with studies of the relation between internal migration and immigration in other time periods. Bronars (1989) found an inverse correlation between immigration and native mobility among states in 1980 but not in earlier Census years. Using the Current Population Surveys, Butcher and Card (1991) report a positive correlation between the in-migration rates of natives to particular cities and immigration flows in the 1980s. The evidence thus suggests that Filer's results may reflect the particular historical circumstances of the late 1970s rather than a general structural pattern of response. Even if this is the case, however, it casts doubt on inferences of the broad economic effects of immigration from cross-city comparisons. If native labor mobility offsets the effects of immigration on native workers in local labor markets in one period, perhaps flows of capital or immigrant-induced expansion of demand for goods offsets it in other periods.

9. Immigration of workers with less than a high school education reduced the rate of decline in the less-educated work force of the United States, with important consequences for the U.S. earnings distribution.

From the 1970s through the 1980s, the real earnings and employment-population rates of less-educated American men deteriorated at a historically unprecedented rate. Earnings differentials between more- and less-educated workers skyrocketed, and inequality rose among workers in given skill categories, producing a more unequal income distribution.

Borjas, Freeman, and Katz find that the flow of less-educated immigrants and the indirect increment in labor supply due to the importation of goods produced by less-educated workers contributed substantially to the rise in earnings differentials across education groups. Because of the concentration of immigrants among workers with less than a high school education, more than one-quarter of American workers with fewer than twelve years of schooling in 1988 were immigrants. The massive trade deficit experienced by the United States during the 1980s contributed an additional increment to the implicit labor supply of less-educated workers, with the result that in 1988 the combined effect of immigration and trade was to increase the "supply" of high school dropouts in the U.S. economy by about 30 percent. By contrast, the effect of immigration and trade on the supply of more-educated workers was relatively modest.

Given reasonable responses of wages and employment opportunities to an increase in the ratio of less-educated to more-educated workers, this massive change in relative supplies must have had a sizable adverse effect on the economic well-being of less-skilled workers. Borjas, Freeman, and Katz find that perhaps as much as half the 10 percentage point decline in the relative weekly wage of high school dropouts between 1980 and 1988 can be attributed to trade and immigration flows.

This conclusion contrasts sharply with the inference drawn from spatially oriented studies, including those in the previous NBER volume, that compare

the earnings and employment of natives in localities where large numbers of immigrants reside and of natives in localities with limited numbers of immigrants. Those studies found only modest and statistically insignificant differences in the position of natives relative to the level of immigration, leading to the inference that immigration does not affect native workers.

There are several potential explanations for the differing implications of the results from the aggregate analysis in this volume and the cross-area analyses that dominate the literature. First, note that in the spatial literature many of the *point estimates* of the effect of immigration on native earnings are statistically insignificant and thus not inconsistent with the evidence in this volume. Consider, for instance, the findings in Altonji and Card (1991), which is representative of the literature based on spatial comparisons. Using the 1980 Census, Altonji and Card find that a 10 percentage point increase in the fraction of immigrants in a standard metropolitan statistical area (SMSA) reduces the log wage of white male high school dropouts in that locality by about 1.8 percent, with a standard error of 2.1 percent (row 6 of their table 7.9). Looking at changes between the 1970 and the 1980 Censuses, they obtain a larger but still statistically insignificant effect of a ten-point increase in the immigrant share on earnings of 3.6 percent. One interpretation of the statistical insignificance is that the elasticity has a very wide confidence interval: a 5 percent confidence interval would range from -6 to $+2$ percent for their 1980 Census result and from -12 to $+5$ percent for their cross-sectional change estimate. The estimated declines in real wages for dropouts in Borjas, Freeman, and Katz lie at the lower end of these ranges.²

Another possible reason for the perceived difference in the results is the continued growth of immigrant flows (relative to the native labor supply) in the latter part of the 1980s, which necessarily makes immigration more significant in the 1980s than one would infer from comparisons of local labor markets in the 1980 Census. If this is correct, comparisons of natives in cities with more or less immigration in the 1990 Census or with increasing immigration from 1980 to 1990 should yield higher estimates of immigrant effects than did estimates based largely on the 1980 Census.

The third explanation of the difference between the spatial studies and the more aggregate analyses in this volume is that local labor markets adjust rapidly to the increased supply of immigrants. If markets clear rapidly, the effects of immigration will be dispersed throughout the economy and thus cannot be readily discovered by spatial analyses. Suppose, for example, that immigrants

2. In the Borjas, Freeman, and Katz study, the immigrant share of high school dropouts rose by about 10 percentage points between 1980 and 1988, with a resultant increase in the pay of dropouts (relative to high school graduates) of 2.4–6.1 percent (table 7.8). A ten-point increase in the immigrant share of all workers comparable to Altonji and Card's (1991) analysis would raise the immigrant share of high school dropouts by roughly twice as much, given the larger proportion of dropouts among immigrants than among natives, implying greater responses, of 4–12 percent.

and natives are substitutes in production. Then, as immigrants enter the labor market, native wages fall, and natives will move to cities where they face less competition from immigrants (or not move to cities with large immigrant populations, in accord with Filer's findings). Alternatively, the fall in wages will induce capital flows to the immigrant-receiving areas. As a consequence, native wages are equalized across cities, yielding no measurable correlation between native wage rates and the presence of immigrants across labor markets.

This hypothesis implies that both the spatial correlations and the macro findings are "correct." The findings differ because they address very different questions. The spatially based studies correctly tell us that immigrants have no measurable effect on particular labor markets, but they are not informative about the economy-wide effects of immigration. The aggregate analysis indicates that immigration affects economy-wide labor supplies, with a sizable effect on the aggregate economic opportunities of natives.

3. Conclusion

The 1980s witnessed a resurgence in the importance of immigration as a determinant of demographic change in the United States, a rebirth of the political debate over how many and which types of immigrants this country should admit, and a renewal of interest in the "economics of immigration."

It is likely that all these trends will intensify as we enter the twenty-first century. The 1990 Immigration Act ensures that the size of the immigrant flow will increase substantially during the 1990s and that legal immigration will reach, if not surpass, the historically high levels recorded in the early 1900s. This increased immigration will be taking place at a time when the growth of the native-born work force has greatly slowed down, both because of the aging of the baby boomers and because female labor force participation rates are reaching a plateau. In addition, despite the enactment of IRCA, the flow of illegal aliens continues unabated. It is likely, therefore, that the same concerns that sparked the debate over immigration policy in the 1980s will resurface in the next few years, with renewed pressure for further changes in policy concerning both legal and illegal immigration.

The increasing importance of foreign-born workers to the U.S. labor market, and the growing awareness that these workers have a substantial economic effect not only in the United States but also in source countries, will surely motivate and guide an extensive research agenda designed to measure these effects. The papers in this volume have highlighted a number of research areas that deserve further analysis: the reasons for the small cross-sectional correlations between native employment opportunities and the presence of immigrants in labor markets compared to the larger effect inferred from the aggregate change in labor supplies due to immigration; the definition and measurement of immigrant assimilation. The reintroduction of immigration

into mainstream economic analysis on a par with trade and capital flows has only just begun.

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