RESEARCH PAPER

Immigrant Quality and Assimilation: A Review of the Literature

T. Paul Schultz

U.S. COMMISSION ON IMMIGRATION REFORM

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CONTENTS

Introduction

This review summarizes the conclusions reached by recent studies of immigration to the United States. The central questions that motivate this literature are: How has the character of immigrants changed over time? How have these immigrants been assimilated and performed economically in the United States? What demands have immigrants placed on public services and income transfer programs? What consequences have immigrants had for native-born workers? These questions span a large field of study, and references and discussion of major issues of interpretation and uncertainty are of necessity selective.

Our knowledge of the answers to these questions is limited. One source of uncertainty stems from gaps in nationally representative data on refugees, on legal and illegal immigrants, and on emigrants leaving the United States by their origin, immigration status, and duration of residence in the United States. If resolution of these uncertainties would affect important choices before the United States, the cost of collecting more adequate data on immigration and emigration should be weighed carefully by Congress. Uncertainty in our answers also can arise from the limitations in the methods used by researchers studying these questions. In such cases it is not always possible to demonstrate how methodological improvements in an original study would affect its conclusions without time-consuming replication and extension of the basic research. It is generally not possible, therefore, to judge which methodological shortcoming in the existing literature will affect a particular conclusion. At several points, an indication is given as to the direction the bias might take.

The first section discusses how characteristics of cohorts of immigrants that enter the United States at different times can be compared, both with earlier or later immigrants and with native-born Americans. The appropriate reference groups are not clear, in part because immigrant subgroups cannot be distinguished and the native counterpart is not always obvious. The second section describes the conclusions from studies that attempt to quantify the assimilation process, where the standard practice is to compare the economic productivity or earnings of immigrant and native workers, although consideration of how well the children of the immigrants are assimilated might bring us closer to the long-run effects of immigration. Section three discusses the social consequences of legal and illegal immigration and the unresolved problems we have in assessing these consequences from local labor market studies. Finally, the

characteristics and assimilation of immigrants can be affected by immigration policies that can emphasize family reunification or skill-based selection of immigrants or humanitarian assistance to refugees. Policies that reduce the flow of legal immigration also can influence the flow of illegal immigration and those seeking refugee status. A final section recapitulates the findings.

The Quality of an Immigrant Cohort

The simplest and perhaps most adequate measure of quality of a cohort of immigrants entering the United States in a specific time period is the distribution of education in this population. Starting with the 1940 Decennial Census of the Population, representative data are available on both the years of educational attainment and the earnings of the U.S. resident population, often by immigrant status. Education has become the primary predictor of the wage rate, and education is linked to the productivity of people in both home and labor market activities. Education obtained by immigrants in their country of origin may be less relevant to the productive opportunities in the United States than that which native-born Americans receive. The quality or relevance of that education may differ, for example, by origin country (e.g., by GNP per capita) and, most notably, if the language of instruction is English (Jasso & Rosenzweig 1986, 1990a). Despite the incomparability of education between and among immigrants born abroad and natives born here, years of schooling is the most powerful single explanatory variable known to account for productivity in the U.S. labor market and elsewhere in the world. Education of parents also is critical for predicting the health and schooling attainment that the children of immigrants and natives obtain (Schultz 1984). Thus, in both the short run and over the immigrant's life cycle, education forecasts his or her own productivity; in the long run it forecasts the assimilation of the immigrant's children into the productive mainstream of the U.S. economy and society. The alternative to education as an indicator of quality is occupation. Occupations are, however, more elusive because individuals often change their occupation over their lifetime and because the economic meaning of occupation as a basis for social stratification and productivity changes over time.

The average years of education of immigrants entering the United States has decreased relative to native-born Americans of the same age and sex (Borjas 1992). In

1940, immigrant men had .8 more years of schooling than native-born men, and by 1980 they had .7 fewer years of schooling. Although the education of these immigrants increased from 9.5 years of schooling in 1940 to 12 years of schooling in 1980, that of the native population increased more rapidly. This deterioration in the schooling of immigrants *relative* to natives is associated with the changing composition of immigrants by region of origin, with the decline in the share coming from Europe (from 60 percent in the 1940s to 10 percent in 1981-1986) being replaced by a rising share from Asia, Mexico, and, more recently, other countries in Latin America (Abowd & Freeman 1991; Funkhouser & Trejo 1993). It also undoubtedly is related to the increased share of immigrants who are illegal (Fix & Passel 1994).

These estimates of education probably are are not seriously biased because virtually all individuals report their education in the Census. The margin of undercount of immigrants, and perhaps especially illegal immigrants, probably is greater than for natives, but this is not likely to be a serious source of bias in estimating the level or trend in education of the two populations. However, it should be noted that the distribution of education of immigrants is far from uniform. Recent changes suggest an increased concentration of immigrants with more education than native Americans (more than sixteen years completed) and far more with education levels below the average of natives (eight or fewer years). Consequently, the average education of immigrant cohorts masks a substantial degree of heterogeneity, and recent problems of assimilation of immigrants in the lower tail of the education distribution deserve emphasis (Fix & Passel 1994; Chiswick & Sullivan 1995; Simon & Akbari 1995). A large share of these recent less-educated immigrants are undoubtedly in the United States illegally, but data are not available to characterize this group.

Productivity of Immigrants

The comparison of the earnings of immigrants and natives is much more difficult than the comparison of education. First, everyone does not work in the labor force. There are a variety of reasons to think that the rules governing self-selection into the labor force may be different for the immigrant and native, and perhaps different for legal and illegal immigrants. Moreover, comparisons of earnings are generally restricted to exclude the self-employed, and one often observes that a

larger proportion of immigrants are self-employed than are natives. There also is a tendency for individuals to shift from being a wage earner to self-employed as they accumulate business capital and labor market experience, which is naturally correlated with their age. Thus, immigrant workers may be observed less often to be wage earners than natives, and they may shift out of wage-earning jobs and into self-employment as they are assimilated into the United States at a faster rate over their life cycle than do natives. It is not possible to know for certain whether these individuals, both natives and immigrants, who decide to work for wages are more or less productive than those who do not work for wages. It might seem reasonable to expect that the more successful are able to accumulate capital and have the motivation to become self- employed. Such a tendency would understate the productivity of immigrants relative to natives, and this understatement of immigrant assimilation could grow with duration in the United States. This source of bias downward in measured quality and the rate of assimilation of recent immigrant cohorts appears to be particularly noticeable among whites and Asians (Yuengert 1989). In general, most comparisons of native and immigrant earnings in the literature ignore the sample selection bias due to excluding self-employed and nonworkers. Adjustment for this source of sample selection bias is expected to improve the relative earnings of immigrants and increase immigrant earnings for those who have had more time in the U.S. to assimilate. How this self-employment bias might have changed from 1940 to 1990 is not well documented, but warrants more research.

A final source of bias in following the assimilation of an immigrant cohort over time after it has arrived in the United States is return migration or emigration. Those returning may be either the more successful immigrants with relatively high earnings or the less successful immigrants with relatively low earnings. Consequently, the uncertainty surrounding assimilation estimates increases with duration of U.S. residence and growth in return migration. As the size of an entering cohort of immigrants is observed to decline from one Census to the next, and this decline is faster than can be explained by mortality, this cohort attrition can be attributed either to return migration or to a tendency for persons to increase their underreporting of immigrant status with duration of residence. A statistical explanation is needed for how this form of cohort attrition varies across Censuses, by country of origin, by education, and by sex. Until we have better data on emigra-

tion from the United States by birth origin and date of entry into the United States, the existing data will have difficulty clarifying these various life-cycle processes that could substantially affect immigrant/native comparisons of earnings or what is reported as the rate of assimilation of immigrant cohorts. This is a second source of bias in assimilation estimates that requires more study.

Immigrant hourly earnings of men who had arrived in the five years before the 1940 Census are 1 percent more than the earnings of natives age twenty-five to forty-four in the 1940 Census. The analogous immigrants in 1980 reported wages 26 percent below this native-born American comparison group in the 1980 Census (Borjas 1992). As with the education trends, much of this pattern can be related to the shift in composition of immigrants by origin country, from Europe to Asia and Latin America. Since 1980, the wage structure in the United States has shifted markedly against the least educated workers, increasing the wage premium paid for workers with a college education. The proportion of immigrant cohorts in 1970 and 1980 with twelve or fewer years of schooling is greater than for the native population, and it comes as no surprise that these immigrants are disproportionately from Latin America. Wages declined for these less educated immigrants during the 1980s as they did for equally educated native-born Americans (LaLonde & Topel 1992).

After the 1980 Census, it is possible to trace changes in the education and earnings of immigrants relative to natives in the immigrant supplements to the monthly Current Population Surveys [CPS] in 1979, 1983, 1986, and 1989. These data are analyzed by Funkhouser and Trejo (1993). From the early 1980s to 1987-1989, the average educational attainment and hourly earnings of immigrants improved relative to native males age eighteen to sixty-one, reversing the downward trend of earlier decades. Funkhouser and Trejo also note an increase in the share of immigrants coming from Europe and from some areas of Asia during the 1980s. The proportion of less-educated immigrants continued to increase in the 1980s, but these increases were only among those coming from Hispanic areas other than Mexico. It may be argued that because of its more detailed income questions and better-trained enumerators, the CPS elicits more accurate information on hourly earnings than does the Decennial Census. If the CPS is a more precise source of data on earnings than the Census, future comparisons of the earnings of immigrants and natives should rely more extensively on

analyses of the CPS files. One hypothesis offered by Funkhouser and Trejo for the upsurge in better-educated European and Asian immigrants in the 1980s is the previously noted increase in the relative wage premia offered to highly educated workers in the U.S. labor market (Murphy & Welch 1992). They conclude that the Immigration Reform and Control Act of 1986 is not the primary cause for this improvement in the quality of immigrant cohorts during the 1980s because the change in composition begins before this act was passed and is evident in regions that are not the primary concern of the legislation.

The basic regularity first noted by Chiswick (1978), and then replicated in many settings around the world, is that immigrants increase their earnings more rapidly than natives after their arrival in a destination. Chiswick noted that after a decade, the earnings of immigrants to the United States had roughly caught up to those of natives, and thereafter immigrants tend on average to outperform natives. Different groups, however, experienced very different earnings profiles relative to natives depending on their self-selection, their match of skills relevant to the U.S. labor market, and their likelihood of becoming a return migrant (Jasso & Rosenzweig 1986). Borjas (1985) found that later cohorts of immigrants caught up to the earnings of natives more slowly than Chiswick estimated and attributed this to a lower "quality" of subsequent immigrant cohorts. This slower assimilation of later cohorts of immigrants can also be associated with the shifting composition of immigrant origins. Borjas' (1987) analysis was designed to deal with the self-selection of emigration, but excluded many origin countries from which two-thirds of the foreign born who entered the United States from 1975 and 1980 came and did not include literacy, which is widely associated with migration (Schultz 1982) among the conditioning variables. Jasso and Rosenzweig (1990a) show, based on a much larger sample of immigrants and countries of origin, that when these omissions are corrected, a pattern of positive self-selection of the emigrants emerges more strongly than in Borjas' (1987) study. If the estimates of Jasso and Rosenzweig are accepted, then part of the lower level of "assimilation" of later cohorts of immigrants to the United States might be due to the increased rate of positively selected emigration.

By the very nature of the distinction between legal and illegal immigrants, representative data that describe these two groups are scarce. In practice, most studies of the education and earnings of immigrants and natives simply combine le-

gal and illegal immigrants along with refugees. Only a few investigations actually use records of legal immigrant cohorts from the INS in combination with other representative surveys and censuses to trace the assimilation of legal immigrants (e.g., Jasso & Rosenzweig 1986).

The Social Costs of Legal and Illegal Immigration

Despite the convincing evidence that immigrants are productive after arriving in the United States and that their earnings converge with duration of residence here toward the earnings level of natives with the same education, do the migrants nevertheless impose social costs on native Americans? These social costs could be of two types. Do they consume more services from the public sector than they pay for in taxes? And, do they reduce the employment and wage opportunities and amenities for some native-born Americans? First it should be clear that illegal immigrants are not eligible for federal welfare and income transfer programs in the United States as they are in some European countries. Even legal immigrants cannot apply for welfare for their first five years in the United States or they risk deportation. Only refugees are eligible for welfare programs and, indeed, have been the beneficiaries of other special programs designed to assist them in their resettlement.

Given the previously documented decline in the education and earnings of immigrants relative to natives from 1940 to 1980, it is not unexpected that immigrants in the 1950s, 1960s, and 1970s were less likely than natives to draw upon the welfare system (Tienda & Jensen 1986; Simon 1989), but that this pattern appears to have reversed by the 1990s (Borjas 1994). In the earlier Censuses, the welfare participation rate of immigrants rises with the duration of residence in the United States, either due to the satisfaction of eligibility requirements or because immigrants were converging toward the behavior of other Americans in their willingness to depend on welfare. There is much greater welfare participation among refugees than among nonrefugee immigrants, as we might expect from the intent of legislation. Even after twenty years in the United States, 14 percent of refugees arriving in 1965-1969 are still on welfare, according to the 1990 Census, compared with 7.4 percent of all native households (Borjas 1994, Tables 1 and 3).

The accounting exercises that are offered in the literature to represent the taxes paid and benefits received by immigrants are difficult to evaluate and reflect widely varying assumptions (Fix & Passel 1994). Figures suggest that the balance is less favorable for the native taxpayer in 1990 than it was in 1950, when immigrants came predominantly from Europe and had a higher educational attainment than native-born Americans. There are also factors working in the opposite direction. If many immigrants return to their origin country after a period of residence in the United States, it is likely that they do not recoup their contributions to the social security trust fund.

For young immigrants other than refugees, the taxes they pay probably roughly equal the discounted value of the benefits they receive. Moreover, many of these benefits are designed to improve the health and future productivity of the children of immigrants. This is a social investment the United States may want to make. Such generational accounts are less rewarding in the case of immigrants who enter the United States toward the end of their productive careers, many of whom enter under an immigration visa provision justified for family reunification. For this older group, five years of residence in the United States may qualify them to apply for a retirement pension under Supplemental Disability Insurance, which is funded from Social Security, and then secure Medicare coverage. In such cases, taxpayers are subsidizing family reunification of elderly immigrants to a substantial extent, and the transfer of public funds is not justifiable as an investment in the future productivity of Americans.

In addition to any net drain on (or contribution to) public resources that immigrants may impose on (make to) native-born Americans, the immigrant worker may depress the wage rate available to natives who seek work in similar activities. Alternatively, immigrant labor may raise the returns on physical capital and complement the returns to certain other groups of native workers who occupy different types of jobs than do immigrants. Many studies have sought to estimate how the concentration of immigrants in a local labor market affects the wage in that market for native workers. Most studies that are able to find such an immigrant cross-wage effect on native workers find the effect to be negligibly small (OECD 1993; Fix & Passel 1994; Zimmermann 1994). However, migrants do substitute for themselves in the sense that they lower the wages that other migrants receive on average in a regional labor market. But few studies find much evidence that immigrants substitute for any distinguishable group of native workers, except per-

haps among unskilled workers during periods of recession (Card 1990; LaLonde & Topel 1992; Altonji & Card 1991; Fix & Passel 1994). It has long been hypothesized that unskilled labor could be a complement for more skilled or educated labor. Evidence of this pattern is found with regard to unskilled immigrant labor by Gang and Rivera-Batiz (1993), who estimate that a 1 percent increase in unskilled labor due to immigration raises the returns to education by three-fourths of a percentage point. If the wages of domestic labor are inflexible, immigration might be expected to lead to higher unemployment rates or lower labor force participation rates among native workers. But neither has been found. A concentration of immigrants in the labor force is associated with an increase in the proportion of the population in the labor force (Altonji & Card 1991). One effect of a concentration of immigrant workers in a region of the United States is an increase in the outmigration from that region of native workers to other parts of the U.S. labor market. Thus, the mobility of native workers may dilute the wage-depressing effect one might expect to find among less-skilled native workers in regions such as Texas, California, or Florida with a large proportion of immigrant workers.

To complete the range of possible effects of immigration, the timing of immigration and the choice of destination (even by refugees) are likely to be responsive to economic conditions in the host country and the alternative labor markets within that country. This is more obvious in the European context where an individual on leaving one country then has a choice of destinations among others countries, and the net flow of immigrants is sensitive to where the best opportunities are to be found (Zimmermann 1994). The composition of migration may also change according to changes in the structure of wages in different destinations (Funkhouser & Trejo 1993). If immigrants decide to locate in relatively high local labor markets in the United States, it is not surprising that the local concentration of immigrants is not strongly (inversely) correlated with wage outcomes for natives or for immigrants.

The unresolved problem with virtually all empirical studies of the labor market consequences of immigration is that they examine the correlation between the number or share of immigrants in local labor markets and other employment or wage outcomes in those markets. This approach is valid only if the allocation of immigrants across local labor markets is random and no other compensating adjustments occur. These adjustments might take the form of outmigration of natives, as noted earlier, or changes in local prices, such as increases

in housing costs or in congestion costs of using public services (e.g., schooling), (Sala-i-Martin 1994) or in decreases in the prices of services, such as child care, that immigrants are likely to provide. In the longer run, any changes in local wages and prices would be expected to give rise to movements in capital as well as further migration of labor.

To analyze correctly the consequences of immigration requires the economist to devise a way to identify the distinguishable effects of shifts in the derived demand for labor from the effects of exogenous shifts in the supply and regional allocation of immigrant labor. I have not found any satisfactory analysis of the consequences of immigration that provides a basis for empirically identifying these general equilibrium effects. For example, Card's (1990) study of the Mariel Boatlift exploits this exogenous event to trigger a supply shift of immigrant labor and thus focuses attention on a natural experiment. But immigrants (and natives) nonetheless choose where to settle, and these simultaneous decisions are unavoidably contaminated by their responsiveness to regional demand factors. Research in this area has concluded that immigration has no major effects on local labor market outcomes. This finding, however, is fragile because the analytical methods used in these studies do not provide convincing empirical evidence on the difficult central question.

Policy Choices

First, how should the United States determine the aggregate flow of immigrants? Second, how should this flow be allocated? Third, what resources should be expended to curb illegal immigration?

Political pressures restrict migration, especially during recessions when domestic levels of unemployment are relatively high and real wages are not likely to be rising. For this reason it might be reasonable to have the quota of immigration legislated to vary pro-cyclically with the business cycle, and thereby dampen cyclical movements in unemployment and wages. The share of the immigration quota provided for the purposes of family reunification in the United States appears to be high compared with other industrially advanced countries (OECD 1993). However, countries that have relied more heavily on skill-based admissions of immigrants, such as Canada, do not appear to have obtained a very different mix of immigrants than the United States. If immigration visas are awarded to applicants with skills that are designated to be scarce, annual calculations based on the wage

premia for each skill group in the Current Population Survey could be used to determine such "scarce skills." This mechanism should moderate the increasing spread of wages between education and skill groups that has occurred in the United States since 1980 (Murphy & Welch 1992). This fine-tuning of the composition of immigration would remove this issue from perennial political debates and might mitigate somewhat the growing income inequality that faces the U.S. society.

There will continue to be excess demand for immigration to the United States, even if Latin American growth in the 1990s returns to the respectable pace of the 1960s or 1970s. Resources should be appropriated to interdict illegal immigrants only to the extent that these resources can be shown to be effective. There is always an alternative approach, one that fosters further liberalization in the world trading economy. Strengthening the institutions that promote freer international trade in commodities and enhance long-term capital mobility may help to absorb the excess demand for immigrating to the United States, while also increasing world output.

Summary

The educational attainment of cohorts of immigrants to the United States has increased over time from 1940 to 1980. But that increase has not been as rapid as that among native-born Americans. Consequently, the difference in average years of education between natives and immigrants increased. This trend appears to have reversed in the mid 1980s according to the CPS data analyzed by Funkhouser and Trejo (1993), with a resurgence in immigration from Europe. It will be important to document if this improving trend in educational attainment of immigrants relative to natives continued up to the 1990 Census and into the 1990s.

Some part of the decline from 1950 to 1980 in immigrant-native relative education is probably due to the growth in the share of illegal immigration in total immigration. But without better data on who is a legal and illegal immigrant, this conclusion about the consequences of illegal immigration must remain tentative. The decrease in average education of the immigrant population entering the Uni-ted States compared with the native population is probably less important than the growing heterogeneity of immigrants, with

a substantial inflow of immigrants who are both relatively well-educated (beyond college) and poorly-educated (less than high school). The former group presents few special problems for assimilation, whereas the latter may present a special challenge.

Comparisons of the earnings of immigrants and natives are subject to several additional sources of uncertainty and probable bias that cloud the adequacies of cohort assimilation comparisons. Because earnings are only observed for a possibly unrepresentative sample of wage earners, the comparisons reported in the literature that show earnings of recent immigrants falling relative to those of natives may be biased. It is my opinion that the omission of self-employed probably understates the earnings capacity of immigrants relative to natives, and this understatement might increase with duration of residence in the United States, underestimating the rate of assimilation of immigrant cohorts in recent decades.

A second source of bias is caused by return migrants. Lacking direct data on emigrants from the United States according to when they first immigrated to the United States and from where they came, it is difficult to adjust the comparisons of immigrant cohorts and natives for these self-selected return migrants who have left the cohort between one census and the next census enumeration. If the return migrants are positively selected, as some studies suggest, then the immigrant cohort's earnings comparisons over time are biased downward, and the true rate of assimilation of immigrants is more rapid than our estimates have indicated.

The evidence of the effects of immigrants on natives is not compelling. Estimates of what immigrants consume in the way of public services appear roughly to balance their tax payments. Many of these public services involve investments in the health and schooling of the children of immigrants that the society should encourage. However, the taxes immigrants pay flow primarily to the federal government while the benefits are often funded at the local and state government levels, creating hardships that the federal system should explicitly address.

Many studies have not been able to find evidence that a concentration of immigrants in a local labor market depresses employment or wage opportunities for local groups of native-born Americans. But these studies do not confront adequately the problem of separating the consequences of the immigrant supply from the local labor market demand con-

ditions that probably contributed to where the immigrants settled. Among the outcomes that need to be evaluated are, in addition to wages and employment, the resulting changes in various prices and capital movements. This is a major challenge to imbed the immigration issue within a general equilibrium model of regional growth that can be estimated directly from data on multiple regional economies within the United States over time.

Unskilled Americans, who have seen their job prospects erode since 1980 and their real wages fall, have an understandable concern that the government should protect their livelihoods. But immigration does not appear to be a large part of this broad national problem of a growing imbalance between our educational system and the skills it provides to our workforce and the demands of the economy for more highly skilled, better educated workers. Dealing with this more fundamental problem requires more innovative educational and social programs. Building barriers to immigration would not seem to be justified by current research, although raising the skill composition of immigrants could make a minor contribution to reducing wage inequality and improving job prospects for the least skilled and educated native-born American workers who have recently lost much ground.

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