Occasional Papers

Have Inflows of Immigrants Diminished Natives Educational Attainment? A Review

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1. Introduction

The increasing gap between the education levels of immigrants and U.S. natives has received intense attention from the research and policy communities over the past ten years.

Most of this research has focused on the question of whether inflows of relatively unskilled immigrants depress wages among *all* less-skilled workers in the United States, but there has been no definitive answer. In a study of the "Mariel boatlift" of a large number of relatively unskilled Cubans to the Miami area, Card (1990) found little evidence that these inflows lowered earnings for less-skilled natives in the area. Although a spate of subsequent studies has not been able to nail down a precise estimate of the effect, a number of studies have found evidence that immigrants do drive down wages for less-skilled native workers. See, for example, Borjas (1998), Butcher (1998), and Reimers (1998).

More recently, researchers have started to ask another question: whether immigrants affect the level of education (i.e., years of schooling) that natives obtain. In theory, inflows of less-skilled immigrants could either decrease, increase, or leave unchanged the educational attainment of natives.

Immigrants might decrease the level of education obtained by natives if the presence of immigrants affects the quality of education. If the effectiveness of public schools declines when the student body becomes more heterogeneous, as, for example, when classrooms contain a mix of fluent English speakers with others who are Limited English Proficient (LEP), the entire class may make slower progress. If large numbers of LEP students at the school create a less effective learning environment, the native student who was already right at the margin of dropping out may decide to leave school and join the work force.

However, there is a countervailing force that could increase the level of education of native students: If large inflows of immigrants lower the wages of less-skilled workers in the area, this native student may decide to stay in school due to his or her relatively weak prospects in the labor market.

So, the influence of immigration on young natives' level of education could be either negative or positive, depending on which of these two opposing forces is the more powerful. Since theory is ambiguous about the direction of the effect, we must take this issue to the data.

2. Setting the Scene: The Educational Attainment and Destinations of Recent Immigrants

To understand how immigrants might affect natives' years of schooling, it is necessary to compare the educational attainment of natives and immigrants and to identify the locations to which immigrants have moved.

Educational Attainment of Immigrants Relative to Natives

Table 1 below, taken from Betts and Lofstrom (forthcoming), shows that, on average, immigrants have fewer years of schooling than natives, and that between 1980 and 1990 the gap widened. As Betts and Lofstrom also show, the main differences between the immigrant and native populations occur at the lower end of the educational distribution, where immigrants average far fewer years of schooling than natives attain. At the top end of the educational distribution, immigrants and natives tend to have highly similar levels of education.

Table 1. Mean Years of Schooling Obtained by All Natives and Immigrants Ages 16-64 in the United States

Year:	1970			1980			1990		
	Native	Immigr	Gap	Native	Immigr	Gap	Native	Immigr	Gap
All Men	11.36	10.59	0.77	12.42	11.61	0.81	12.69	11.28	1.41
All Women	11.26	10.05	1.21	12.17	11.00	1.17	12.61	11.06	1.55

Source: Betts and Lofstrom (forthcoming, Tables 1 and 2)

The widening gap in education between natives and immigrants suggests that inflows of immigrants are likely to have the greatest effect on less-educated portions of the native population. Specifically, native-born *minorities* are the people whose education is probably most affected by immigration, for three reasons.

First, if an influx of immigrants into the local area puts a strain on public services such as schooling, families of higher income can move to more affluent areas or enroll their children in private schools. Minorities are less likely than whites to have the financial resources for either of these alternatives.

Second, *within* schools, minority students are more likely than white students to be in classes with recent immigrants because schools group students by initial achievement,[1] and minority students and immigrants are more likely than native whites to have lower achievement.

Third, disadvantaged immigrant students are eligible to participate in federally financed Title I programs. The goal of this spending is to provide remedial education to disadvantaged children. In a study of school districts in Oakland, Houston, Boston and Washington, D.C., Fix and Zimmerman (1993) concluded that an influx of immigrants to each of these school districts in the 1980s did not crowd native-born students out of participation in Title I programs. However, they did find evidence that the influx of immigrant schoolchildren during this time expanded the number of children receiving Title I services, which had the effect of reducing spending per pupil on remediation. This reduction in remedial spending is likely to be felt most strongly by minority students.[2] For all three of these reasons, it is plausible that the effects of immigrants on educational attainment of natives should be greatest on minorities.

Destination of Immigrants

A second important fact to consider is that the inflows of young immigrants have varied dramatically across states. For instance, looking at changes in the immigrant-to-population ratio for the age group 19-25 between 1980 and 1990 by state, Betts (1998) found that the unweighted average increase in this ratio across the lower 48 states and the District of Columbia was 0.017, or 1.7 percent. But three states (California, Texas and Nevada) and the District of Columbia witnessed increases of over 5 percent in the immigrant-to-population ratio between 1980 and 1990. Another eight states experienced increases of 2.5-5 percent. (These states were Arizona, Florida, Illinois, Maryland, Massachusetts, New Jersey, New York, and Oregon.)

Interactions Between the Destination of Immigrants and Their Level of Education Relative to Natives

The uneven flow of immigrants across regions does not tell the whole story. It is quite likely that the average educational attainment of immigrants also varies significantly across

[1] The use of tracking to group together students who are at similar levels of achievement is a widespread practice in American public schools. Betts and Shkolnik (forthcoming), using a representative national panel of 6000 students from 1987 to 1992, found that approximately three-fourths of the schools' principals reported that a formal tracking policy was used in math classes. Yet the range of mean academic achievement across classes was similar in schools which reported using tracking and those which claimed that they did not. This finding suggests that to some degree, most American schools track students, even if no formal tracking policy is in place.

states. For example, tabulations (Betts, in progress) based on Census and Current Population Survey data indicate that in 1970 immigrants living in California and the rest of the nation had virtually identical average years of schooling. By 1996/97, however, a large skills gap had opened up: Adult immigrants in the rest of the nation had an average of 11.8 years of education, whereas immigrants in California had only 10.9 years of education. If it is true that inflows of immigrants decrease the educational attainment of natives, states such as California should feel the effects particularly strongly.

As will be discussed in Section 6, all of these patterns – the lower level of educational attainment of immigrants, their geographic concentration, and the variations in immigrants' skill levels by regions – suggest a need to develop education policies, for both immigrants and natives, that are tailored to local populations.

3. Have Inflows of Immigrants Increased High School Dropout Rates of Native-Born Minorities?

In Betts (1998), I tested the hypothesis that the presence of immigrants in local schools discourages native minorities from staying in school. Using 1980 and 1990 Census data, I modeled the probability that native-born blacks and Hispanics in the age group 19-25 have finished high school. I tested for a relationship between the proportion of immigrants in this age group in the local area and the native's probability of graduating from high school. I conducted these analyses by measuring the immigrant-to-population ratio at the state level and at the metropolitan-area level.

In all studies of this type, it is crucial to control for other factors that might determine the young native person's decision about whether to finish high school. If some omitted trait of the state or metropolitan area is related both to native-born students' probability of graduating and to the share of immigrants in the population, then the estimated effect of immigrants on natives' educational attainment might be too high or too low. Therefore, I tested for a relationship between *changes* in natives' probability of graduating between 1980 and 1990 and *changes* in the share of immigrants during this period in each of the states or the 132 metropolitan areas. This test fully controlled for all unobserved traits of each area that are constant over time.

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[2] For instance, Fix and Zimmerman (p. 49, 1993) report that in 1989-90 29 percent of Title I enrollees were black and 23 percent were Hispanic. These proportions are far larger than the proportions of blacks and Hispanics in the overall population.

In addition, I controlled for several other potentially confounding factors. A key example is the socioeconomic status of the generation of older blacks and Hispanics who parented the young black and Hispanic students in the regression sample. Many researchers have found that an improvement in the socioeconomic status of parents leads to higher educational attainment among their children. Accordingly, I proxied for the socioeconomic status of the parents of young blacks and Hispanics by controlling for the income per capita and the proportion of the adult population (aged 35-64) that holds a high school diploma in the relevant minority group. I also controlled in some models for the pupil-teacher ratio in public schools, since there is some evidence in past research that higher pupil-teacher ratios are correlated with lower educational attainment among students. [3]

Table 2 shows the results from the analysis conducted at the state level. The first row shows the increase in the immigrant-to-population ratio in the age group 19-25 between 1980 and 1990, weighted first by the number of young native blacks living in each state and second by the number of young native Hispanics living in each state. Interestingly, the increase in young native Hispanics' "contact" with young immigrants was much higher in this period than it was for native blacks, largely due to large inflows of immigrants to California and the large native-born Hispanic population in California. Next, I predicted the drop in the probability that a native black or Hispanic would graduate from high school, given the change in the immigrant-to-population ratio (1980-90). The results appear in line two of the table. The probability that native blacks graduated from high school is predicted to have dropped by 0.73 percentage points between 1980 and 1990. The effect on native Hispanics is somewhat larger, with a 3.67 percentage point predicted drop in the probability of graduating.

In sensitivity analyses, these results continue to hold. Notably, repeating this analysis after dropping California, I found that the results for native blacks continued to hold, while the results for native Hispanics became statistically insignificant. To some extent, this is not surprising, since almost 30 percent of native Hispanics in the sample lived in California. However, it seems that the negative effect of immigration on natives' educational attainment is a national phenomenon for native blacks and largely a California phenomenon for native Hispanics. Why is the effect of immigration on native Hispanics' educational attainment restricted to California? One possible explanation is the fact that immigrants living in California have

[3] See for instance Betts (1996) for a review of the literature on how school spending affects both years of schooling completed and students' subsequent wages. Estimates that use state of birth to infer the level of school resources experienced by a worker while in school tend to find that school resources positively affect both years of schooling and earnings. Studies that measure actual resources at the school attended tend to yield much weaker results.

significantly lower skill levels than do immigrants elsewhere (Betts, in progress). In this way, California immigrants are likely to have placed relatively greater demands on the resources of local schools than have immigrants in the rest of the nation.

Table 2 . Estimates of the Predicted Drop in the Probability of Graduation Given a Rise in the Ratio of Immigrants to the Overall Population

Native Group for Which Graduation Probability Modeled:	Black Natives	Hispanic Natives
Change in Proportion of Immigrants in Local Population Aged 19-25, 1980-1990	0.0296	0.0638
Predicted Change in Probability that Natives of Given Group Graduate from High School	-0.0073	-0.0367

Source: Betts (1998, Table 8.5)

4. Have Immigrants Reduced Native-Born Minorities' Attendance at U.S. Colleges?

Caroline Hoxby (1998) examined whether immigrants have "crowded" minority natives out of postsecondary institutions in the United States. She speculates that immigrants could displace native minorities from universities and colleges in two ways. First, universities might fulfill their affirmative action goals by admitting minorities who are not American citizens. Second, to the extent that immigrant and minority native enrollees in postsecondary institutions compete for remedial resources, immigration might lessen the benefits of attending college for native minorities.

Hoxby finds evidence that immigrants diminish attendance of native blacks and Hispanics through competition for affirmative action positions at elite universities, but not at intermediate or non-selective colleges. She also finds some evidence that immigrants discourage native minorities from attending college through competition for remedial resources at intermediate colleges, but not at elite or non-selective colleges.

5. Broader Tests for a Link between Immigration and the Educational Attainment of All Natives

Betts and Lofstrom (forthcoming) extend the work of Betts (1998) and Hoxby (1998). The paper models not simply the probability of high school graduation (as in Betts, 1998) or college attendance (as in Hoxby, 1998), but total years of schooling obtained, along with models of the probability of high school graduation, attendance at college, and graduation from a four-year college program. The analysis uses Census data from 1970, 1980 and 1990. The analysis also extends the prior work by estimating models for all major racial/ethnic groups: whites, blacks, Hispanics, and Asians.

Betts and Lofstrom find evidence in favor of the hypothesis that immigration lowers educational attainment for native blacks, Hispanics, Asians, and whites. An increase of 0.05 in the proportion of immigrants in the young population is predicted to lower average years of education by 0.29 year for Asians, 0.17 year for Hispanics, 0.10 year for blacks, and 0.06 year for whites.

In section 2, I listed three reasons why the educational attainment of native minorities was more likely than the educational attainment of whites to respond to immigration. This predicted pattern appears quite clearly in the results listed above. One of the reasons why white students' educational attainment might be less sensitive to immigration is that, on average, this group has greater financial resources than do minorities. As noted above, this could allow white parents a greater ability to move away from areas where school resources are strained by inflows of LEP students or to enroll their children in private schools. In work in progress, Fairlie and Betts find some evidence that inflows of school-age immigrants in the 1980s are correlated with native parents sending their children to private school – at the high school level, but not at the primary school level. White families account for almost all of the predicted shift into private schools that correlates with inflows of immigrants to the metropolitan area.

Betts and Lofstrom (forthcoming) also study the tiers of the educational system at which the negative relation between immigration and natives' educational attainment is most apparent. Intriguingly, most of the negative effect of immigration on natives' educational attainment appears to occur in grade school. There is evidence that immigrants reduce the attainment of native Hispanics and native Asians in postsecondary as well as secondary education, but only at the sub-baccalaureate level. (This may help to explain the particularly large estimated effect of immigration on the overall years of education obtained by Asians that is reported above.)

Even though the evidence that immigrants reduce natives' educational attainment is stronger at the secondary level than the postsecondary level, Census data can shed no light on

whether immigration causes native minorities who do attend postsecondary education to shift between universities. Hoxby (1998) finds evidence that at very selective and extremely selective colleges (with average SAT scores in the observed student population above 1100 and 1200, respectively), immigrants do tend to crowd out American-born minorities. Taken together with the above results based on Census data, the implication is that a rise in immigration might not necessarily prevent native minorities from attending four-year colleges, but it may diminish the quality of colleges that they do attend. This finding is extremely relevant for policymakers, given findings by James et al. (1989) and Loury and Garman (1995) that the quality of university attended influences a student's future wages positively.

6. Conclusion and Policy Implications

The recent work by Betts (1998), Hoxby (1998), and Betts and Lofstrom (forthcoming) suggests that inflows of immigrants to the United States in the 1980s may have diminished the educational attainment of native minorities by meaningful amounts. Betts and Lofstrom (forthcoming) show further that this negative effect applies to *all* American natives at the secondary level, but that the effects are concentrated among native minorities. Although we now have three pieces of evidence pointing in this direction, all of the analyses to date have used indirect means to infer whether immigrants directly or indirectly dissuade natives from attending educational institutions. More direct studies at the school level would be required to confirm these findings. More to the point, school-level (or even college-level) research might indicate educational reforms through which we might minimize these negative effects on natives' educational attainment.

The existing research suggests few specific policy prescriptions for legislators. Nevertheless, two general observations may be germane. Existing federal aid to school districts that provide an educational home for immigrant schoolchildren is large overall, but it is rather small on a per capita basis. Congress passed the Emergency Immigrant Education Act of 1984 in a bid to provide supplemental funding to school districts that had a large fraction of immigrant students. Although the existence of this Act illustrates public recognition that additional funding is needed to cope with inflows of immigrant schoolchildren, the funding disbursed under the law makes at best a modest contribution. In the 1989-1990 school year, average disbursements under the Act were $62 per eligible immigrant student (General Accounting Office, 1991) This sum is slightly more than 1 percent of the current expenditures per pupil in average daily attendance in public schools in that year, which totaled $4,939 (National Center for Education Statistics, 1991, p. 155). A larger

program directed toward immigrant schoolchildren is Title VII funding for bilingual education. In 1990-91, spending in this program amounted to $158.5 million, or about $70 per LEP student in the country. Of course, in many states, these funds are supplemented by state money to aid districts with large numbers of LEP students. But it is quite important that we learn more about the effectiveness of this rather limited spending, and whether a boost in funding for affected school districts would increase the educational progress not only of immigrants but of natives as well.

The geographic concentration of immigrant inflows and the gap between the educational attainment of immigrants in California and the rest of the nation, both described in Section 2, lead to a second observation that is relevant for policy. None of the three existing studies tests for non-linear effects of immigrants, but it seems likely that the extent to which immigration reduces natives' educational attainment increases more than proportionately as the immigrant-to-population ratio rises. For this reason, it makes sense for Congress to focus its funding on the most severely affected states, and within states, on the most severely affected school districts. These districts are mostly located in metropolitan areas that act as "gateways" for immigrants, such as Los Angeles, Miami, and New York. Funding under the Emergency Immigrant Education Act of 1984 already concentrates on the most heavily affected districts. This approach probably makes good sense, for both the immigrants and their native counterparts in these schools.

The passage in both the U.S. Senate and House of Representatives of "Ed-Flex" legislation in March 1999 may represent another step that will allow a tighter geographical focus of educational funding. The Education Flexibility Partnership Act of 1999 allows states greater flexibility in how they spend federal funds for programs such as Title I. It may give states greater freedom to focus on the school districts that are the most heavily affected by immigration and by disadvantaged students more generally. However, it remains unclear how, in practice, states will react to this increased flexibility. [4]

A more geographically targeted education policy for immigrants and native minorities might also alleviate somewhat the extraordinary increases in income inequality in the United States in recent years. Reed (1999) establishes that this trend toward greater inequality has been particularly strong in California. She also establishes that the two leading explanations of rising inequality in California are the rising gaps in wages between workers of different skill levels and between immigrants and natives in particular. It stands to reason that increased geographic targeting of both state and federal education dollars to the schools attended by immigrants and by disadvantaged natives could make a tangible contribution to reducing inequality.

[4] See Robelen (1999) for a review of the Ed-Flex bills.

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