Changing Poverty, Changing Policies

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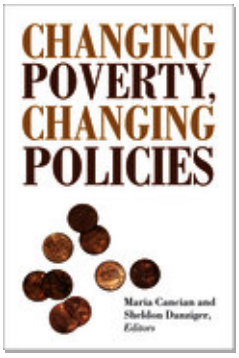


Chapter 5

Immigration and Poverty in the United States

Steven Raphael and Eugene Smolensky

Between 1970 and 2003, the proportion of U.S. residents born in another country increased from 4.8 percent to 12.4 percent. This relative increase corresponded to a sizable absolute increase in the number of foreign-born. Net international migration accounted for over one-quarter of net population growth during this period. Moreover, recent international migrants are heavily concentrated among groups with either extremely low or relatively high levels of formal educational attainment, with the group at the low end being particularly large. Many have conjectured that this large flow of immigrants has had adverse effects on the economic well-being of the least-skilled native-born and hence the poverty rate.

The potential contribution of international migration to the official poverty rate in the United States is likely to operate through two avenues. First, migrants may have a direct effect on the poverty rate. Since the poverty rates observed among the foreign-born are high, an increase in the proportion of foreign-born will, as a matter of arithmetic, increase the national poverty rate. This direct compositional effect can be either exacerbated or mitigated over time depending on the extent to which immigrants acquire experience in U.S. labor markets and progress through the earnings distribution.

Second, international immigration alters the relative supplies of workers with different levels of education and other labor market skills, a factor that may influence the wages and employment of both migrants and natives. In particular, recent immigration has increased the number of workers with very low levels of educational attainment. The impact of this change on poverty depends on the sensitivity of native employment and earnings to the influx of competing immigrant labor. Moreover, the effects on poverty rates are likely to vary across racial and ethnic groups. In particular, African Americans, native-born Hispanics, and the native-born children of prior immigrants tend to be less educated on average and thus are perhaps most likely to be affected by competition with immigrants.

In this chapter, we assess the contribution of immigration over the past three and a half decades to poverty in the United States. We first document trends in poverty rates among the native-born by race and ethnicity and poverty trends among all immigrants, recent immigrants, and immigrants by their region and (in some instances) country of origin. Next, we assess how poverty rates among immigrants change with time in the United States. By measuring poverty rates over time among immigrant cohorts defined by when they arrived, we are able to track how the poverty rates of immigrants change as their time in the United States increases.

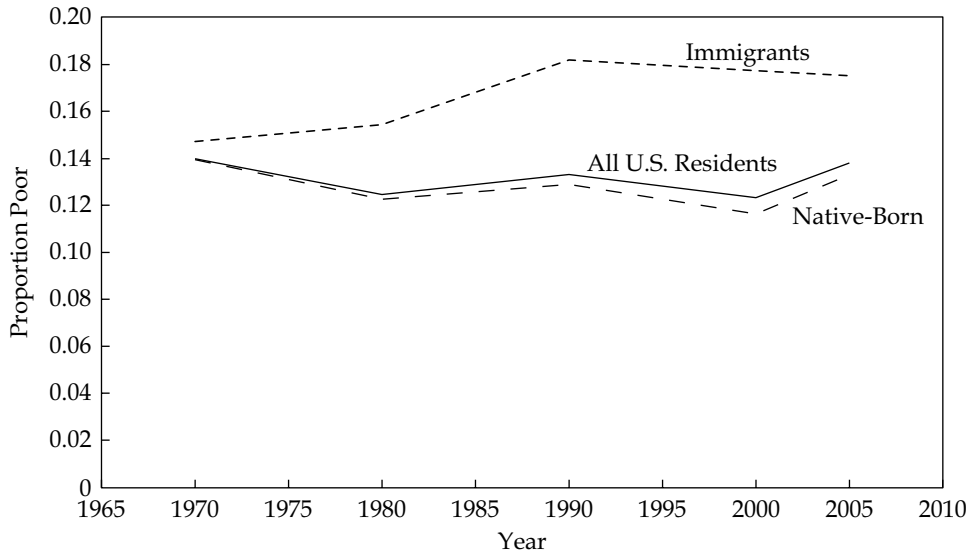
Having documented these basic facts, we turn to a discussion of the likely impact of immigration on poverty rates operating through (1) a shift in the composition of the population and (2) an impact of immigration on the earnings and employment of natives. We first assess what the nation's poverty rate would have been if there had been no change in the proportion of immigrants between 1970 and 2005, assuming no labor market effects of immigration. Next, we provide a simple theoretical discussion of labor market competition between immigrants. Finally, we simulate what native poverty rates would be under alternative estimates of the effects of immigrants on native earnings and employment.

To summarize our findings, poverty in the United States declined modestly between 1970 and 2005. Declines were notable for the native-born, while poverty among immigrants increased absolutely. Within country-of-origin groupings, poverty declined for most groups. The distribution of the U.S. immigrant population by region of origin, however, has shifted decisively toward source countries that generate immigrants who are more likely to be poor.

We find that poverty rates among immigrants groups decline quite quickly with time in the United States. Moreover, while the initial level of poverty among recent arrivals has increased in recent decades, the declines in poverty observed in subsequent censuses suggests that even the poorer immigrants of the most recent wave either exit poverty at a fairly rapid rate or emigrate out of the country. Interestingly, the immigrant-native disparity in the incidence of poverty declines with immigrants' time in the United States when immigrants are compared to native birth cohorts of similar age at similar points in time. This pattern is consistent with either real income growth for immigrant households that propels immigrants out of poverty or the selective return migration of those immigrants most likely to be poor.

Our analysis reveals that immigration patterns had a modest impact on poverty. Overall poverty declined by a modest amount between 1970 and 2005. Decomposing this change into a component attributable to changing population shares across groups by nativity and country of origin indicates that, had the composition of the U.S. population not changed, the poverty rate would have fallen by an additional percentage point. Thus, while immigration certainly has contributed to overall poverty rates, the contribution through this direct channel is modest. Our estimates that account for the effects of immigration on native wages suggest modest effects of immigration over this time period on the least-educated natives (those with less than a high school diploma) and no or slightly

FIGURE 5.1 / Proportion of All U.S. Residents, Native-Born Residents, and Immigrants in Poverty, 1970 to 2005



Source: Authors' tabulations based on the Public Use Microdata Samples (PUMS) (U.S. Bureau of the Census, various years) and the 2005 American Community Survey (ACS) (U.S. Bureau of the Census 2005).

positive effects on the earnings of most other skill groups.[1] The simulation results suggest that labor market competition with immigrants has had little to no effect on overall native poverty levels or on those for specific racial and ethnic groups.

DATA DESCRIPTION AND BASIC POVERTY TRENDS

We analyze data from the 1970, 1980, 1990, and 2000 U.S. censuses and the 2005 American Community Survey (ACS).[2] Poverty is imputed from total household income (not inclusive of transfer payments), with the federal poverty line adjusted for family size in each census year (and in 2005 for the ACS sample). We restrict the sample to all non-institutionalized residents of the United States.

First we document the poverty trends. Figure 5.1 displays the poverty rates measured for each census year and 2005 for all U.S. residents, the native-born, and immigrants. Since the native-born constitute the majority of the U.S. population in each year (from a high of 95 percent in 1970 to a low of 87 percent in 2005), the

TABLE 5.1 / Poverty Among the Native-Born by Race-Ethnicity, 1970 to 2005

	1970	1980	1990	2000	2005	Change 1970 to 2005
Non-Hispanics						
White	10.3%	8.8%	9.1%	7.9%	9.3%	–1.0%
Black	36.2	30.1	30.6	25.2	26.7	–11.0
Asian	9.4	8.4	11.2	12.3	12.5	3.1
Other	37.1	27.0	30.8	22.1	24.3	–12.8
Hispanic	27.0	23.9	25.4	22.1	23.5	–3.1

Sources: Authors' compilation based on the Public Use Microdata Samples (PUMS), 1970 through 2000 (U.S. Bureau of the Census, various years), and the 2005 American Community Survey (U.S. Bureau of the Census 2005).

overall poverty rate closely mirrors the poverty rate among the native-born. Poverty increases notably among immigrants, however, from roughly 15 percent to 18 percent over the time period depicted.

Table 5.1 displays the percentage of natives in poverty for five mutually exclusive race-ethnicity groupings in all decennial census years since 1970 and in 2005. Several changes are notable. First, with the exception of native-born Asians, poverty declines for all groups, with particularly large declines for non-Hispanic blacks (from 36 percent to 27 percent) and non-Hispanic others (from 37 percent to 24 percent). More modest declines are observed for whites and Hispanics. For blacks and Hispanics, poverty rates decline monotonically between 1970 and 2000 and then increase slightly in 2005.

Table 5.2 presents similar tabulations for all U.S. resident immigrants in all decennial census years since 1970 and in 2005, by region of origin.[3] We provide separate country-of-origin estimates for Mexico given the disproportionate importance of immigrants from this country. Immigrants from Mexico have the highest poverty rates: between 26 and 29 percent of Mexican immigrants were poor in each year. Immigrants from Central and South America and from Asia also have relatively high poverty rates. On the other hand, western European immigrants and immigrants from other North American countries have low poverty rates, with percentages in poverty that are fairly stable across census years. Interestingly, there are few notable increases in poverty within country- or region-of-origin groups, and many instances where poverty rates decline.

We also tabulated comparable poverty rates where immigrants within each group and year are further subdivided into immigrants who arrived within five years prior to the census (recent immigrants) and immigrants who arrived earlier (nonrecent immigrants). Figure 5.2 displays these tabulations. Poverty rates are much higher among recent immigrants within all country-of-origin groupings.

TABLE 5.2 / Poverty Among Immigrants by Region of Origin, 1970 to 2005

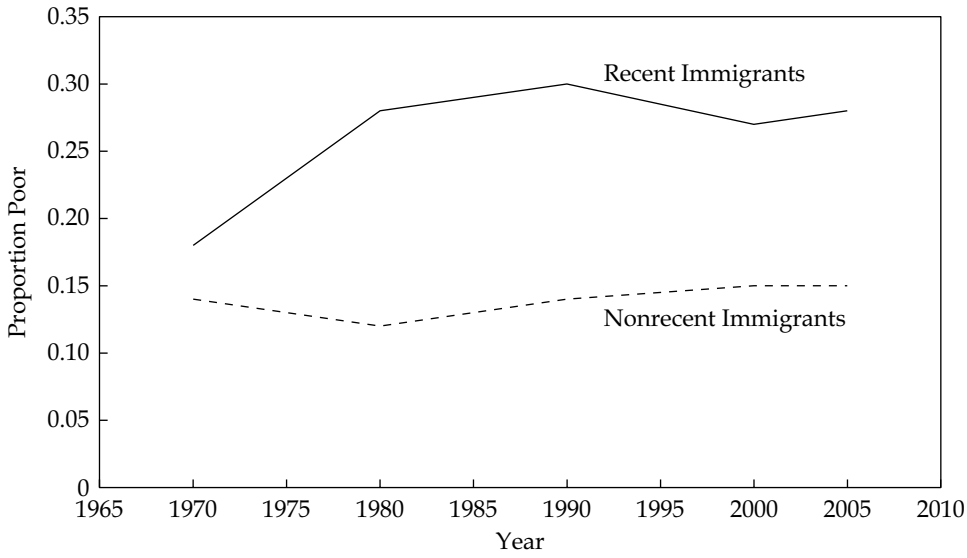
	1970	1980	1990	2000	2005	Change 1970 to 2005
North America	9.0%	8.0%	8.1%	7.6%	8.0%	–1.0%
Latin America						
Mexico	29.2	26.4	29.4	26.5	26.1	–3.2
Central America	15.9	20.6	22.4	19.9	17.9	2.0
Caribbean	14.7	16.4	18.6	17.5	17.9	3.2
South America	14.5	15.3	14.6	15.5	12.2	–2.3
Europe						
Western[a]	12.6	8.5	8.1	7.8	8.2	–4.4
Eastern[b]	14.3	8.9	9.2	11.7	10.9	–3.4
Russian Empire	16.1	14.9	19.7	19.6	16.9	0.8
Asia						
East	13.4	12.7	15.6	15.1	15.0	1.6
Southeast	16.2	19.8	18.4	12.2	11.4	–4.8
India and Southwest	14.6	17.2	12.4	11.0	9.8	–4.8
Middle East	14.3	20.1	19.5	18.3	19.3	5.0
Africa	12.5	20.4	14.9	17.6	20.4	7.9
Oceania	11.9	15.9	16.1	12.1	10.5	–1.4
Other	20.8	23.1	24.7	—	17.4	–3.4

Sources: Authors' compilation based on the Public Use Microdata Samples (PUMS), 1970 through 2000 (U.S. Bureau of the Census, various years), and the 2005 American Community Survey (U.S. Bureau of the Census 2005).
a. Excludes Warsaw Pact countries and the components of the former Yugoslavia.
b. Includes former Warsaw Pact countries and the components of the former Yugoslavia.

This pattern is consistent with either a strong negative effect of time in the United States on poverty or increasing poverty rates among cohorts of more recent arrivals. We investigate this issue in more detail in the next section.

The poverty trends in figure 5.1 reveal increases in poverty among immigrants, while the tabulations in table 5.2 suggest that within-group poverty rates have been relatively stable. Taken together, these two trends suggest that the distribution of immigrants across country-of-origin groupings must have shifted toward higher-poverty immigrant groups. Indeed, this is the case. Table 5.3 displays the distribution of the U.S. resident population by nativity, by race-ethnicity among natives, and by region of origin among immigrants. The tabulations for immigrants reveal several stark changes in the region-of-origin distribution for immigrants. Western Europeans constituted 41 percent of the immigrant population in 1970 but only 10 percent in 2005. By contrast, Mexican immigrants constituted 8 percent of

FIGURE 5.2 / Poverty Rates Among Recent Immigrants (Arrived Within Past Five Years) and Nonrecent Immigrants (Arrived More Than Five Years Before)



Sources: Authors' tabulations based on the Public Use Microdata Samples (PUMS) (U.S. Bureau of the Census, various years) and the 2005 American Community Survey (ACS) (U.S. Bureau of the Census 2005).

immigrants in 1970 and 27 percent of immigrants in 2005. Sizable increases are also observed in the proportion of immigrants from other Latin American countries and Asian countries. Thus, we observe a sizable shift toward immigrant groups with higher U.S. poverty rates.

HOW IMMIGRANT POVERTY RATES CHANGE WITH TIME IN THE UNITED STATES

We noted that poverty rates among recent immigrants are considerably higher than poverty rates among immigrants from the same regions who arrived in the more distant past. This cross-sectional pattern suggests that, with time in the United States, immigrant poverty may decline and perhaps converge to the lower levels experienced by the native-born.

In more recent years, however, new immigrants are increasingly likely to come from regions that supply poorer immigrants. Moreover, it is possible that there have been comparable shifts in the composition of immigrants from the same nation (from lower-poverty to higher-poverty co-nationals). Thus, more recent immigrants may be fundamentally different from previous immigrants, with higher propensities to

TABLE 5.3 / Distribution of the U.S. Resident Population by Nativity, by Race-Ethnicity Among the Native-Born, by Time in the United States Among Immigrants, and by Region of Origin Among Immigrants

	1970	1980	1990	2000	2005	Change 1970 to 2005
All U.S. residents	100.00%	100.00%	100.00%	100.00%	100.00%	—
Native-born	95.18	93.82	92.03	88.82	87.60	–7.58
Immigrant	4.82	6.18	7.97	11.18	12.40	7.58
All natives	100.00%	100.00%	100.00%	100.00%	100.00%	—
Non-Hispanic white	84.50	81.61	81.52	76.67	78.25	–6.25
Non-Hispanic black	11.43	11.94	10.50	11.71	10.00	–1.43
Non-Hispanic Asian	0.50	0.69	1.07	2.11	2.47	1.97
Non-Hispanic other	0.42	0.74	0.99	1.39	1.10	0.68
Hispanic	3.15	5.02	5.91	8.10	8.19	5.04
All immigrants	100.00%	100.00%	100.00%	100.00%	100.00%	—
Recent	82.46	76.15	75.15	75.63	82.54	0.08
Nonrecent	17.54	23.85	24.85	24.37	17.46	–0.08
All immigrants	100.00%	100.00%	100.00%	100.00%	100.00%	—
North America	9.60	6.13	4.12	2.90	3.03	–6.57
Latin America						
Mexico	8.22	15.82	22.77	30.74	27.45	19.23
Central America	1.21	2.54	5.52	6.46	6.10	4.89
Caribbean	7.05	9.12	9.08	9.09	8.25	1.2
South America	2.71	4.08	5.18	5.93	6.56	3.85
Europe						
Western[a]	40.94	26.27	16.37	9.99	9.77	–31.17
Eastern[b]	11.36	6.58	4.22	3.48	3.46	–7.9
Russian Empire	6.09	3.51	1.99	2.79	3.14	–2.95
Asia						
East	4.31	6.84	8.90	8.63	9.78	5.47
Southeast	1.74	6.60	10.13	9.89	10.43	8.69
India and Southwest	0.92	2.79	4.13	5.45	6.57	5.65
Middle East	1.33	2.02	1.95	1.71	1.76	0.43
Africa	0.63	1.35	1.54	2.50	3.16	2.53
Oceania	0.43	0.58	0.53	0.53	0.48	0.05
Other	3.45	5.77	3.57	0.00	0.06	–3.39

Sources: Authors' compilation based on the Public Use Microdata Samples (PUMS), 1970 through 2000 (U.S. Bureau of the Census, various years) and the 2005 American Community Survey (ACS) (U.S. Bureau of the Census 2005).

experience poverty in the United States. Observing higher poverty among recent immigrants in a given year is also consistent with a decline in the average earnings potential of more recent immigrants relative to immigrants from times past.

This difficulty in interpreting the difference in socioeconomic status between recent immigrants and nonrecent immigrants is a central point of contention in the research regarding the degree to which immigrant wages assimilate upward toward the higher earnings of the native-born. In a series of papers, Barry Chiswick (1978, 1980) argues that the strong cross-sectional relationship between immigrants' time in the United States and earnings is indicative of the speed with which immigrants assimilate into the U.S. labor market.

In a series of articles, George Borjas (1986, 1995) contests this interpretation of the cross-sectional earnings data. Borjas argues that to the extent that more recent immigrants have discretely lower earnings potential than immigrants from previous years, comparing immigrants of different ages in a given year provides a distorted picture of the future earnings paths of recent immigrants. Borjas constructs "synthetic cohorts" across census years to investigate this possibility. A synthetic cohort compares the earnings of a specific arrival cohort at different points in time (across census years), thereby providing an alternative characterization of the age-earnings profile. For example, the average earnings of immigrants who arrived between 1965 and 1970 as measured in the 1970 census, the 1980 census, and so on are compared. In this comparison, changes between years would pertain to the same cohort and might be attributable to time in the United States. When estimated in this fashion, the age-earnings profiles of immigrants look considerably less steep than those implied by the cross-sectional patterns. That is to say, earnings growth appears to be no faster than that of comparable natives, immigrant earnings do not overtake native earnings, and native-immigrant income convergence occurs at a slower rate than is implied by a cross-sectional analysis comparing the earnings of immigrants of different ages at a given point in time (such as a census year).

In table 5.4, we apply the synthetic cohort analysis of Borjas to the measurement of poverty. Specifically, using census data from 1970 through 2005, we define immigrant cohorts by their year of arrival and measure their poverty rates in successive census years. Assuming that the composition of the cohort does not change over time through selective emigration or measurement error (a big assumption that we will discuss further), changes in poverty rates across census years for fixed arrival cohorts provide estimates of how immigrant poverty changes with immigrants' time in the United States.

We present results for immigrants from all source countries and for all ages in the top panel. These initial results reveal several distinct patterns. First, the poverty rates of recent immigrants (shown along the diagonal) increased notably between 1970 and 1990. In 1970, 18 percent of recent immigrants (defined as those who had arrived within the past five years) had incomes below the federal poverty line. This increased to 28 percent in 1980, and to 30 percent in 1990, but then declined to 28 percent in 2000. The top panel also reveals that poverty rates decline quite quickly with time in the United States. Moreover, these declines are more pronounced for more recent cohorts relative to past cohorts. For example,

TABLE 5.4 / Synthetic Cohort Analysis of Immigrant Poverty Rates by Census Year and by Year of Arrival

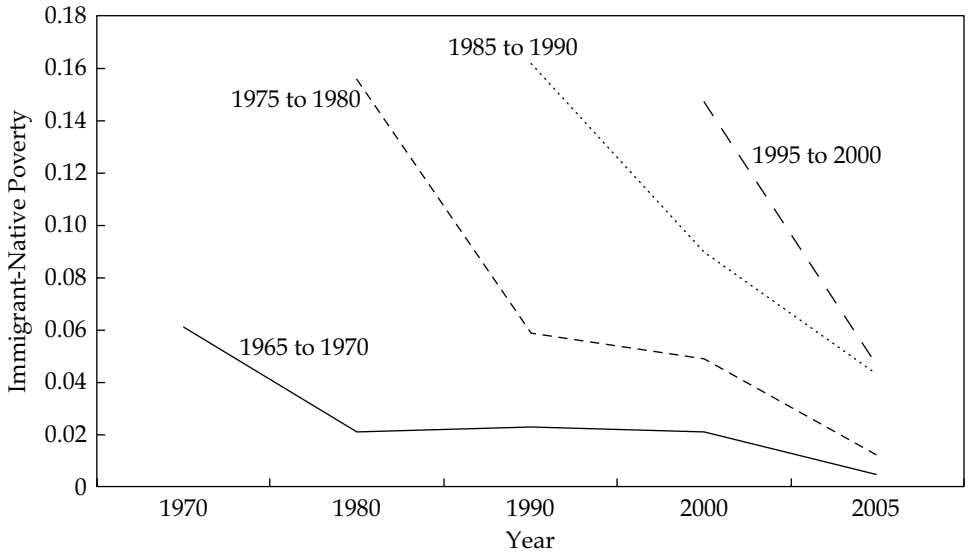
	1970	1980	1990	2000	2005
Year of first arrival					
All immigrants					
1965 to 1970	18.0%	12.3%	10.8%	10.3%	9.5%
1975 to 1980	—	27.9	16.3	13.1	10.7
1985 to 1990	—	—	30.3	17.9	14.5
1995 to 2000	—	—	—	27.8	17.8
Immigrants eighteen to thirty-four in census year immediately following arrival					
1965 to 1970	16.8	10.4	9.5	9.5	8.6
1975 to 1980	—	27.0	14.8	12.0	9.3
1985 to 1990	—	—	29.6	17.5	13.6
1995 to 2000	—	—	—	28.5	16.8
Natives age eighteen to thirty-four in:					
1970	10.7	8.3	7.2	7.4	8.1
1980	—	11.4	8.9	7.1	8.1
1990	—	—	13.4	8.5	9.3
2000	—	—	—	13.8	12.2

Sources: Authors' compilation based on the Public Use Microdata Samples (PUMS), 1970 through 2000 (U.S. Bureau of the Census, various years), and the 2005 American Community Survey (ACS) (U.S. Bureau of the Census 2005).

considering the first row of the panel, between 1970 and 1980 the poverty rate of immigrants who arrived between 1965 and 1970 declined by 5.7 percentage points (from 18.0 percent to 12.3 percent). The comparable ten-year change for recent immigrants in the 1980 census was 11.3 percentage points (27.9 percent to 16.3 percent), while the comparable change for recent immigrants in the 1990 census was 12.4 percentage points (30.3 percent to 17.9 percent). Even for the five-year period following the 2000 census, the poverty rate among recent immigrants declined by a full 10.0 percentage points.

To address whether the decline over time in poverty rates represents convergence between immigrants and natives, we need to compare changes in poverty for comparable age groups. The middle panel reproduces the top panel for immigrants who were between eighteen and thirty-four years of age in the census year following their arrival (excluding children and older immigrants from each arrival cohort).[4] The patterns are quite similar, with poverty declining during the first ten years in the United States by ten percentage points or more in most instances. The bottom panel presents comparable cross-census comparisons of poverty rates among the native-born who were age eighteen to thirty-four in each of the decennial census years. For example, the figures in the first row present poverty rates for those natives who were age eighteen to thirty-four in 1970, twenty-eight to forty-four in 1980, thirty-eight to forty-four in 1990, and so

FIGURE 5.3 / Immigrant Poverty Rate Minus Native Poverty Rate by Arrival Cohort, Immigrants Age Eighteen to Thirty-Four at First Census Year After Arrival



Sources: Authors' tabulations based on the Public Use Microdata Samples (PUMS) (U.S. Bureau of the Census, various years) and the 2005 American Community Survey (ACS) (U.S. Bureau of the Census 2005).

on. We can assess the degree to which immigrant poverty rates converge toward those of the native-born by comparing the corresponding immigrant-native poverty rates (using the figures in the middle and bottom panels) and their change over time.

Figure 5.3 graphs the corresponding differences between immigrant and native poverty rates in the middle and bottom panels of table 5.4 for each arrival cohort. For example, the left-most point in figure 5.3 shows the six-percentage-point gap between immigrant and native-born poverty for recent immigrants and natives who were age eighteen to thirty-four in 1965 to 1970 (corresponding to the difference between 16.8 percent and 10.7 percent shown in the first column of the middle and bottom panels of table 5.4). The figure reveals the rapid convergence of native and immigrant poverty rates. For example, over the thirty-five-year period between 1970 and 2005, the immigrant-native poverty rate differential between the 1965 to 1970 arrival cohort and the comparably aged natives declined from about six percentage points to half a percentage point. Between 1980 and 2005, the relative poverty rate differential for the 1975 to 1980 cohort declined from 15.6 percentage points to 1.2 percentage points. Among the most recent arrivals in the 2000 census (the 1995 to 2000 arrival cohort), the immigrant-native poverty differential declined from 14.7 percentage points to 4.6 percentage points over a relatively short five-year

period. Thus, in contrast to the wage results discussed earlier, the poverty rates of immigrants did indeed assimilate for the better compared to native outcomes.[5]

We also tabulated comparable synthetic cohort analyses of the relationship between time in the United States and poverty rates among immigrants for select region-of-origin groups. Here we summarize these additional results.[6] Although there are large differences in starting poverty rates for recent immigrants (with Mexican immigrants experiencing the highest initial poverty rates and Asian immigrants the lowest), poverty declines with time in the United States for all groups. For example, between 1980 and 2005, the percentage in poverty among the 1975 to 1980 arrival cohort declined by 14.5 percentage points among Mexican immigrants, 19.8 percentage points among Central American immigrants, 19.4 percentage points among South American immigrants, 16.1 percentage points among East Asian immigrants, and 22.6 percentage points among Southeast Asian immigrants.

To provide an alternative set of metrics of poverty assimilation among immigrants, we also compared the poverty rates for Mexican, Central American, and South American immigrants to those of native-born Hispanics. Similarly, we compared the poverty rates for East Asian and Southeast Asian immigrants to those of native-born Asians. These comparisons also reveal substantial narrowing of the immigrant-native poverty rate disparity with time in the United States. The slowest narrowing is observed for Mexican immigrants, while for Central American and South American immigrants, poverty rates fall below native-born Hispanic poverty rates in several instances. For East Asian and Southeast Asian immigrants, nearly all of the immigrant-native poverty disparity is eliminated within ten years, while the remaining disparity disappears within twenty years in most instances.

The results from this section strongly suggest that with time in the United States the poverty rates of specific immigrant cohorts defined by year of arrival decline sharply and, for the most part, converge to the lower poverty rates of the native-born. Since these results are based on synthetic cohorts rather than on analysis of longitudinal data on actual cohorts, they are open to several alternative interpretations. One clear possibility is that as immigrants acquire experience in the United States, labor market earnings increase sufficiently to propel many out of poverty. An alternative interpretation is that those immigrants who are the most likely to remain poor selectively migrate out of the United States and back to their home countries. In other words, the arrival cohort observed near the time of arrival may differ in composition from the same arrival cohort observed a decade or two later.

We cannot distinguish between these two possibilities with census data, but recent research by Darren Lubotsky (2007) speaks directly to this issue. Lubotsky hypothesizes two sources of upward bias to synthetic cohort estimates of earnings growth among immigrants. First, selective emigration of the least successful leaves a positively selected, higher-earning group of immigrants remaining in the United States. Less successful immigrants leave the United States and are not included in estimates of later earnings. Second, since the census basically asks immigrant respondents when they arrived in the United States "to stay," immigrants who cycle in and out of the United States, and who are perhaps more likely to be low earners, are overrepresented among recent immigrants. By comparing longitudinal earnings

records from the U.S. Social Security Administration with synthetic cohort estimates from the census and other sources, Lubotsky shows that both sources of bias tend to exaggerate the degree to which immigrant earnings increase with time in the United States.

What are the implications of these findings for the analysis here? Clearly, any upward bias in synthetic cohort estimates of immigrant earnings assimilation is likely to lead us to overstate the degree to which an immigrant who enters the United States today will climb out of poverty in future years. However, the extent of this bias in the current application is perhaps less severe than in studies of income growth. Since progressing out of poverty simply requires that household income cross the poverty line, income growth beyond this threshold (even if exaggerated) has no impact on the incidence of poverty. The second source of bias resulting from misclassification suggests that our estimates of poverty among recent immigrants are likely to be too high, while the estimates of the poverty rates for nonrecent immigrants are likely to be low. Again, this bias is perhaps less important when the poverty count is at issue. What is clear, however, is that with time in the United States income growth and selective migration result in sharply declining poverty rates among specific time-of-arrival cohorts of immigrants.

THE CONTRIBUTION OF IMMIGRATION TO THE NATIONAL POVERTY RATE: COUNTRY-OF-ORIGIN COMPOSITIONAL EFFECTS

The descriptive statistics indicate that poverty among the U.S. immigrant population has increased and that this increase has been driven largely by shifts in the composition of the immigrant population toward higher-poverty source countries. Moreover, the figures in table 5.3 indicate that a larger proportion of the nation's population is foreign-born (increasing from 4.8 percent to 12.4 percent over the period studied). Increasing poverty among immigrants, coupled with a higher proportion of immigrants in the population, must add to the national poverty rate. In this section, we assess by how much.

To be sure, the results thus far suggest that this composition effect cannot be large. Immigrants still constitute a minority of the U.S. population, with poor immigrants being a minority of this minority. Thus, their contribution to the national weighted average poverty rate is dwarfed by the contribution of the lower poverty rate of the native-born. Of course, native poverty may be higher as a result of labor market competition with immigrants (an issue we analyze in detail in the next section). Nonetheless, the pure compositional effect is limited in size by the size of the overall foreign-born population.

To analyze this question more formally, here we calculate a simple decomposition of the change in the national poverty rate between 1970 and 2005. The decomposition allows us to assess the contribution to changes over time in the poverty rate of two components: the change due to the change in the internal composition

TABLE 5.5 / Decomposition of Changes in National Poverty Rates into a Component Due to Changing Population Composition and a Component Due to Changes in Poverty Rates

	Percentage-Point Change in National Poverty Rate	Change Due to Changes in Population Shares	Change Due to Changes in Group-Specific Poverty Rates
1970 to 2005	–0.94	1.15	–2.09
1980 to 2005	0.56	0.63	–0.07
1990 to 2005	–0.01	0.54	–0.56
2000 to 2005	0.90	–0.28	1.18

Sources: Authors' compilation based on the Public Use Microdata Samples (PUMS), 1970 through 2000 (U.S. Bureau of the Census, various years) and the 2005 American Community Survey (ACS) (U.S. Bureau of the Census 2005).
Notes: These decompositions are calculated as follows. Let w_{it} be the proportion of the U.S. population at time t accounted for by group i, where the index i encompasses the native-born and each of the country-of-origin groups listed in table 5.2. In addition, define $poverty_{it}$ as the corresponding poverty rate for group i in year t. The national poverty rate for 1970 and 2005 can be expressed as a weighted sum of the group-specific poverty rates:

$$poverty_{1970} = \sum_{i=1}^{I} w_{i1970} poverty_{i1970}, \; poverty_{2005} = \sum_{i=1}^{I} w_{i2005} poverty_{i2005}. \tag{5.1}$$

The change in poverty rates can be expressed by

$$\Delta Poverty = \sum_{i=1}^{I} w_{i2005} poverty_{i2005} - \sum_{i=1}^{I} w_{i1970} poverty_{i1970}. \tag{5.2}$$

Adding and subtracting the term $\sum_{i=1}^{I} w_{i1970} poverty_{i2005}$ to equation 5.2, then factoring, gives the decomposition

$$\Delta Poverty = \sum_{i=1}^{I} \left(w_{i2005} - w_{i1970}\right) poverty_{i2005} + \sum_{i=1}^{I} w_{i1970} \left(poverty_{i2005} - poverty_{i1970}\right).$$

The first component on the right-hand side shows the contribution to the poverty change associated with the shift in population shares between 1970 and 2005. This component is reported in the second column of the table. The second component represents the contribution of changes in group-specific poverty rates between 1970 and 2005, holding the population shares constant at 1970 levels. This component is reported in the third column of the table.

of the U.S. resident population across native and immigrant groups, and a component driven by changes in poverty rates occurring within these groups.[7]

Table 5.5 presents these decompositions for various time periods. In nearly all comparisons, the shift in population shares away from the native-born, and within the immigrant population, toward immigrants from poorer source countries has tended to increase poverty in the United States. However, declines in poverty within groups have for the most part more than offset the partial increases in poverty driven by changes in the national-origin population shares. For example,

between 1970 and 2005, poverty declined slightly (by 0.94 percentage points). The changes in the population distribution between 1970 and 2005 increased poverty by 1.15 percentage points. This suggests that the composition effect of immigration has increased the national poverty rate by 1.15 percentage points above what it would otherwise be had the population shares not changed between 1970 and 2005. These decompositions are similar for all periods compared in table 5.5, with the exception of the 2000 to 2005 decomposition. During this period, the poverty rate increased slightly. Here, compositional changes were such that they tended to reduce poverty holding all else constant, while changes in poverty rates within groups increased poverty during this latter period. These decompositions suggest that the direct compositional effects of immigration on poverty are modest, especially during the later periods.[8]

POVERTY AMONG NATIVES DUE TO LABOR MARKET COMPETITION WITH IMMIGRANTS

The contribution of immigration to poverty analyzed in the previous section is purely arithmetic. To the extent that immigrants have higher poverty rates and immigrants are an increasing proportion of the resident population, the national poverty rate increases. Beyond this compositional effect, immigrants may also affect national poverty through labor market competition with natives. To the extent that immigrants drive down the wages of natives with similar skills, increased immigration contributes to native poverty. Moreover, this effect may be exacerbated if natives respond to lower wage offers by working fewer hours.

In this section, we begin with a theoretical discussion of the potential impact of immigrants on the earnings and employment of natives. We then present upper- and lower-bound estimates of the effects of immigration on native poverty operating through an impact of immigrant competition on the national wage distribution.[9]

Plainly stated, an influx of immigrants lowers the wages of those native-born workers with whom immigrants are in direct labor market competition. To the extent that wage suppression is sufficient to push these natives below the poverty line, immigration contributes to native poverty. The economic forces behind this proposition are best illustrated with a simple model of wage determination in the overall economy. Suppose that all workers in the economy are exactly the same in that employers can perfectly substitute one employee—immigrant or native—for another. Also assume that the stock of productive capital (machinery, plant, and equipment used in the production of goods and services) is fixed. Under these conditions, an increase in immigration increases the supply of labor in the national economy and lowers the wages and employment of native workers who now compete with immigrant workers.[10] At the same time, total employment (immigrant plus native) increases, raising national output. In conjunction with lower wages, increased output translates into higher incomes accruing to the owners of capital.[11]

This is a relatively straightforward story. Immigration increases national output, harms native labor, but enriches the owners of capital. Stated in an alternative

manner using terminology that we define more clearly momentarily, immigration harms those "factors of production" with which it directly competes, while benefiting those factors that it complements. Given the large increases in immigration in recent decades and the clear predictions of these simple theoretical arguments, one may wonder what there is to debate.

Of course, the actual economy and the likely impacts of immigration operate within a far more complex model. Most conspicuously, in telling our simple story we assumed that employers could perfectly substitute the average immigrant worker for the average native worker (and vice versa). This is clearly unrealistic. Immigrants and natives differ along a number of dimensions that are likely to be of value to employers. Immigrants tend to have less formal education on average; levels of educational attainment are particularly low among Hispanic immigrants and many Southeast Asian immigrants. Immigrant and native-born workers are likely to differ in their ability to converse in English, and immigrants also tend to be younger than natives, a fact suggesting that the average immigrant worker may have less labor market experience than the average native-born worker.[12]

Given such differences in skills, it is more likely that immigrants and natives are imperfect substitutes in production—that is, substituting immigrant for native workers is possible, but limited by differences in skills. Moreover, the substitution possibilities are likely to vary across jobs according to the skill content of various occupations. In some instances, certain subgroups of natives are likely to complement immigrant labor in production. That is to say, certain native workers are likely to be hired in conjunction with the hiring of immigrant workers. For example, Spanish-speaking laborers on a construction site may increase the demand for native-born bilingual Hispanics with enough education to serve in supervisory positions. As another example, an increase in the supply of low-skilled construction labor may increase the demand for architects, structural and civil engineers, skilled craftsmen, and workers in other such occupations whose labor constitutes important inputs in the construction industry.

The imperfect substitutability between immigrant and native workers in the United States is most readily demonstrated by comparing their distributions across educational attainment groups. Table 5.6 presents the distributions of immigrants and native men and women, ages eighteen to sixty-four, across formal educational attainment levels for the year 2000. The share of immigrant workers with extremely low levels of educational attainment is quite high relative to all native groups. For example, roughly 22 percent of immigrant men left school before the ninth grade, compared with 2 percent of native-born white men, 4 percent of native-born black men, 2 percent of native-born Asian men, and 8 percent of native-born Hispanic men. Similar patterns are observed when comparing immigrant and native-born women. Immigrants are also more likely to hold advanced degrees relative to most of the native-born groups.

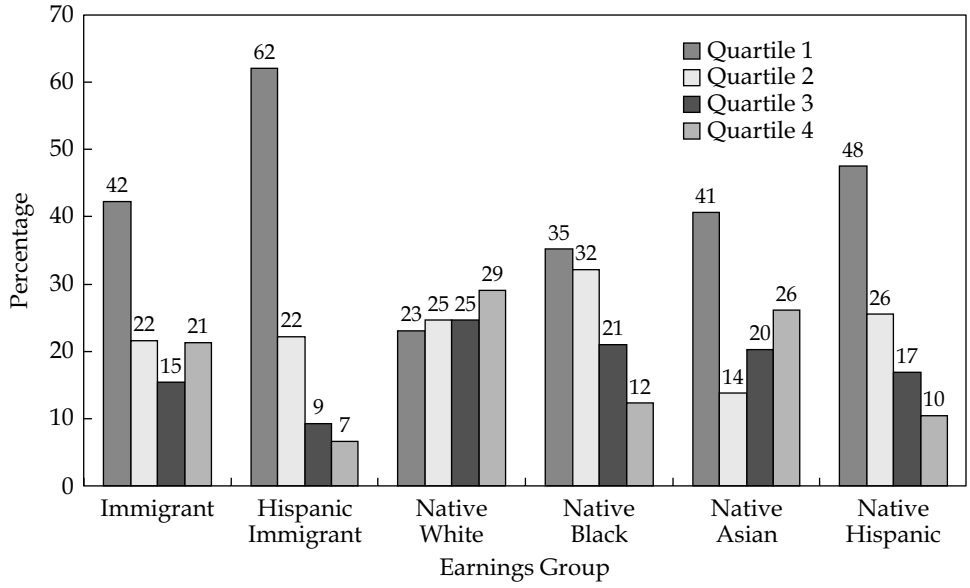
We can further characterize the degree of overlap between the skill distributions of immigrants and natives by incorporating the effects of age as well as education on skills and earnings. We do so by defining fifty-four age-education groups, ranking the groups by average earnings and identifying those age-education groups that

TABLE 5.6 / Distribution of Educational Attainment by Immigration States and by Race-Ethnicity for Adults, Age Eighteen to Sixty-Four, 2000

Educational Attainment	Foreign-Born		Native-Born American Citizens							
			Non-Hispanic White		Non-Hispanic Black		Non-Hispanic Asian		Hispanic	
	Men	Women	Men	Women	Men	Women	Men	Women	Men	Women
Less than ninth grade	21.61%	19.57%	2.32%	1.63%	4.18%	2.93%	2.09%	1.63%	8.15%	7.22%
Ninth to twelfth grade, no diploma	17.48	15.70	10.02	8.47	23.14	18.73	7.72	6.00	23.29	19.56
High school graduate	19.02	20.76	29.04	28.99	33.90	30.18	18.67	17.43	29.80	28.70
Some college	18.43	22.05	31.37	34.66	28.16	33.81	36.60	36.94	28.10	32.37
Bachelor's degree	12.62	14.09	17.80	17.81	7.60	9.89	24.18	27.04	7.45	8.78
Master's degree or higher	10.84	7.83	9.45	8.43	3.02	4.47	10.74	10.96	3.21	3.37

Source: Authors' compilation based on 1 percent 2000 Public Use Microdata Samples (PUMS) (U.S. Bureau of the Census, various years).

FIGURE 5.4 / Distribution of Immigrant and Native-Born Men Across Earnings Groups Based on Native Population Quartiles

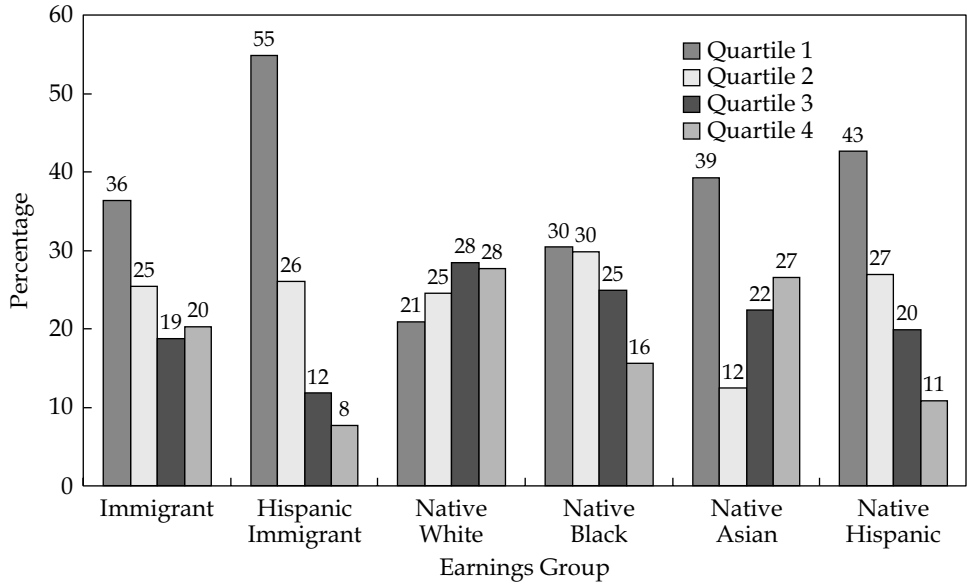


Sources: Authors' tabulations based on the Public Use Microdata Samples (PUMS) (U.S. Bureau of the Census, various years) and the 2005 American Community Survey (ACS) (U.S. Bureau of the Census 2005).

account for the bottom 25 percent, or first quartile, of the skill distribution for natives; the next 25 percent of natives, or the second quartile; the middle-upper 25 percent of natives, or the third quartile; and the top 25 percent of the native skill distribution, or the fourth quartile.[13] With this breakdown, we then calculated the percentage of each immigrant and native group that falls within each skill quartile. To the extent that the percentage for a given group and quartile exceeds 25 percent, the group is overrepresented in this portion of the skill distribution. Conversely, to the extent that the percentage falls below 25 percent, the group is underrepresented.

Figure 5.4 presents these skill distributions for immigrant and native men. In addition to all immigrants, we also present the distribution for Hispanic immigrants. Immigrants are heavily overrepresented in the least-skilled quartile and underrepresented in the remainder of the skill distribution. Fully 42 percent of all immigrant men and 62 percent of Hispanic immigrant men lie in the bottom quartile of the overall native skill distribution. For the native-born, by contrast, 23 percent of white men, 35 percent of black men, 41 percent of Asian men, and 48 percent of Hispanic men fall in this low-skilled group. Furthermore, immigrants are underrepresented in the middle of the skill distribution, with 37 percent of all immigrants

FIGURE 5.5 / Distribution of Immigrant and Native-Born Women Across Earnings Groups Based on Native Population Quartiles



Sources: Authors' tabulations based on the Public Use Microdata Samples (PUMS) (U.S. Bureau of the Census, various years) and the 2005 American Community Survey (ACS) (U.S. Bureau of the Census 2005).

and 31 percent of Hispanic immigrants in the second and third quartiles; for the native-born, the comparable figures are 50 percent for white men, 53 percent for black men, 34 percent for Asian men, and 43 percent for Hispanic men. Figure 5.5 presents comparable distributions for women. Here we also see fairly large differences between the skill distributions of immigrant and native women.

These figures suggest that immigrants and natives differ considerably in terms of their skills, a fact that complicates our analysis. Allowing for imperfect substitution between immigrant and native labor driven by differences in skills alters our theoretical predictions regarding the economic effects of immigrants on native labor market outcomes. Those natives whose skills are most like those of immigrants are most likely to be harmed. On the other hand, those natives groups with sufficiently different skill sets are likely to be the least harmed or may even benefit in the form of higher wages and greater employment as a result of an increase in immigrant labor. The educational attainment figures presented in table 5.6 and the skill distributions depicted in figures 5.4 and 5.5 indicate that there are substantial differences in skills between immigrants and natives. Perhaps the greatest degree of similarity is between immigrants and native-born Hispanics. Nonetheless, one cannot predict

a priori the average impact on immigration of each of these groups, since immigrant skills distributions clearly differ in each case. The ultimate effect of immigrants on natives—positive or negative—is an empirical rather than a theoretical question.

In our simple model of the effect of immigration on native wages and employment, we also assumed that the stock of productive capital is held fixed—in other words, that an immigration-induced increase in the nation's endowment of labor does not spur additional net investment on the part of domestic and foreign producers. Capital investment involves the deliberate allocation of resources toward activities that augment the future productive capacity of the economy—for example, the addition of a machine or a factory. Whether the economy makes sufficient investments to, on net, increase the stock of productive capital depends on the return to capital, with increasing returns spurring net capital accumulation.

The connection between immigration and capital accumulation is driven by the effect of immigration on these returns. To the extent that immigration increases the nation's labor supply, each unit of existing capital has more labor to work with. This increased relative scarcity of capital makes each unit more productive, which in turn increases the return to capital investment and the incentive to invest in future productive capacity. The resulting net capital accumulation partially offsets the negative effects of immigration on native wages and employment by increasing labor productivity (and, in turn, wages) and by creating new employment opportunities. The degree of this offset depends on the responsiveness of the capital supply to changes in return, as well as on the underlying technological relationships governing production in the economy. Nonetheless, capital accumulation dulls the wage and employment effects of immigration on natives.

Thus, we began with a simple story in which immigration unambiguously lowers the wages and reduces the employment of native workers and then finished with a more nuanced description in which the theoretical predictions are more ambiguous and varied. In our more complex yet more realistic theoretical discussion, the potential adverse labor market effects of immigration should be greatest for those native-born workers who are most similar in their skills to immigrants. Workers who are sufficiently different may even benefit from immigration insofar as immigrants complement such natives in producing goods and services. In addition, capital accumulation in response to an immigrant inflow, in isolation, benefits all workers by making them more productive. This partially offsets the wage declines for workers who are most similar to immigrants and accentuates the wage increases for natives with complementary skills.

Because the theoretical predictions regarding the magnitude and size of the effects of immigrants on native wages and employment are ambiguous (as is, therefore, the theoretical prediction regarding poverty), whether immigration increases or decreases poverty is ultimately an empirical issue. To estimate the contribution of immigration to poverty through labor market competition with natives, we simulate

the hypothetical wages that workers of various skill groups would have earned in the year 2005 if the supply of immigrant labor had been held to 1970 levels. Using a range of alternative wage estimates, we then simulate what personal income, total family income, and poverty rates would have been had the immigrant population been held at 1970 levels.[14]

Table 5.7 presents lower- and upper-bound estimates of the effects of immigration on the national wage structure between 1970 and 2005. Each set of estimates provides the proportional effect of immigration during this time period on the weekly wages of the native-born by educational attainment and the level of labor market experience (in years). Note that the range of wage effects in these simulations spans the existing range of estimates in the empirical literature (see, for example, Borjas 2005; Ottaviano and Peri 2005, 2007).[15]

The lower-bound estimates assume that immigrants and natives within each skill group are imperfectly substitutable for one another, and they also assume a fairly high degree of substitutability between workers at different levels of educational attainment. Imperfect substitutability between immigrants and natives concentrates the negative wage effect of immigration on immigrants themselves, while the greater the degree of substitutability between workers of different levels of educational attainment, the more evenly the effect of the immigrant supply increases concentrated among the least skilled is diffused across all native-born workers. In conjunction, these two factors lead to estimates of the impact of immigration on native wages that are relatively modest, with small negative effects for high school dropouts only and zero to slightly positive effects for all other groups of workers. The upper-bound results in the second column of table 5.7 assume considerably less substitutability between workers in different education groups, thus concentrating the effect of immigration on those groups that are most affected. Not surprisingly, the predicted negative effects on the wages of high school dropouts increase (in absolute value), while the positive impacts on the wages of high school graduates and those with some college increase.

The final wage simulation assumes limited substitutability between workers of different levels of educational attainment (as in the simulation presented in the second column of table 5.7), but perfect substitutability between immigrants and natives within skill groups. This simulation yields the largest adverse wage effects for high school dropouts: perfect substitutability between similarly skilled immigrants and natives transmits a greater share of the supply shock to native workers, while the limited substitutability between workers with different education levels prohibits the shock from spreading out of the skill groups most affected by immigration. In all simulations, capital is allowed to accumulate in response to immigration-induced changes in the return to capital.

With these wage simulations, we are able to calculate hypothetical family income for households with a native-born household head and alternative poverty rates for all such households in 2005. The results of this exercise are presented in tables 5.8 and 5.9. In table 5.8, we present actual poverty rates and simulated poverty rates for those residing in households headed by a native-born person by the race-ethnicity

TABLE 5.7 / Simulated Proportional Effects of Immigration Between 1970 and 2005 on Native Weekly Wages by Level of Educational Attainment and Potential Years of Work Experience

Years of Experience of Native Skill Group	Assumes Immigrants and Natives Are Imperfect Substitutes Within Skill Group		Assumes Immigrants and Natives Are Perfect Substitutes Within Skill Group
	Lower Bound	Upper Bound	Upper Bound 2
Less than high school			
0 to 4	–0.00	–0.05	–0.07
5 to 9	–0.02	–0.07	–0.09
10 to 14	–0.02	–0.07	–0.09
15 to 19	–0.02	–0.07	–0.09
20 to 24	–0.02	–0.07	–0.09
25 to 29	–0.01	–0.06	–0.08
30 to 34	–0.01	–0.06	–0.08
35 to 40	–0.00	–0.06	–0.07
High school graduate			
0 to 4	0.01	0.01	0.01
5 to 9	0.00	0.01	0.00
10 to 14	0.00	0.01	0.00
15 to 19	0.00	0.01	0.00
20 to 24	0.01	0.01	0.01
25 to 29	0.01	0.02	0.01
30 to 34	0.01	0.02	0.01
35 to 40	0.01	0.02	0.01
Some college			
0 to 4	0.01	0.02	0.02
5 to 9	0.01	0.02	0.02
10 to 14	0.01	0.02	0.01
15 to 19	0.01	0.02	0.01
20 to 24	0.01	0.02	0.01
25 to 29	0.01	0.02	0.02
30 to 34	0.01	0.02	0.02
35 to 40	0.01	0.02	0.02
College graduate			
0 to 4	0.01	0.00	0.00
5 to 9	0.00	0.00	–0.01
10 to 14	0.00	0.00	–0.01
15 to 19	0.00	0.00	–0.01
20 to 24	0.00	0.00	0.00
25 to 29	0.00	0.00	0.00
30 to 34	0.01	0.00	0.00
35 to 40	0.01	0.00	0.00

Sources: Authors' tabulations based on the Public Use Microdata Samples (PUMS) (U.S. Bureau of the Census, various years) and the 2005 American Community Survey (ACS) (U.S. Bureau of the Census 2005).
Note: See text for description of wage simulations.

TABLE 5.8 / Actual Poverty Rates in 2005 Among Persons in Households Headed by Natives and Simulated Poverty Rates Holding Immigrant Labor Supply to 1970 Levels

		Using Lower-Bound Wage Effects and Assuming Immigrants and Natives Are Imperfect Substitutes		Using Upper-Bound Wage Effects and Assuming Immigrants and Natives Are Imperfect Substitutes		Using Upper-Bound Wage Effects and Assuming Immigrants and Natives Are Perfect Substitutes	
	Actual Poverty Rate	Elastic Labor Supply	Inelastic Labor Supply	Elastic Labor Supply	Inelastic Labor Supply	Elastic Labor Supply	Inelastic Labor Supply
Race-ethnicity of household head							
Non-Hispanics							
White	7.9%	7.9%	7.8%	7.8%	7.9%	7.8%	7.8%
Black	26.0	25.8	25.8	25.8	25.7	25.5	25.6
Asian	8.0	8.0	7.9	7.9	7.9	7.8	7.8
Other	19.6	19.5	19.5	19.5	19.5	19.2	19.3
Hispanic	19.3	19.0	19.1	18.7	18.9	18.4	18.8
Educational attainment of household head							
Less than high school	29.1	28.4	28.6	27.6	28.2	27.2	27.9
High school	14.0	13.9	13.9	13.9	13.9	13.8	13.8
Some college	9.9	9.9	9.9	10.0	9.9	10.0	9.9
College or higher	3.0	2.9	2.9	2.9	2.9	2.9	2.9

Sources: Authors' tabulations based on the Public Use Microdata Samples (PUMS) (U.S. Bureau of the Census, various years) and the 2005 American Community Survey (ACS) (U.S. Bureau of the Census 2005).
Notes: Actual and simulated poverty rates pertain to persons in households where the household head is native-born. Simulations with elastic labor supply assume a weeks-worked labor supply elasticity of one. Simulations with inelastic labor supply assume a weeks-worked labor supply elasticity of zero. See the text for a complete discussion of the calculations of the simulated poverty rates.

of the household head and by the level of educational attainment of the household head. Table 5.9 presents similar comparisons for groups defined by the interaction between the race-ethnicity of household heads and the heads' educational attainment. For each of the three wage simulations, we present two sets of hypothetical poverty rates. The first assumes that higher wages induce an increase in weeks worked—that is, that labor supply is elastic—thus yielding higher hypothetical family income (and lower hypothetical poverty rates) for those adversely affected by competition with immigrants. The second assumes that labor supply is unresponsive

TABLE 5.9 / Actual Poverty Rates in 2005 Among Persons in Households Headed by Natives and Simulated Poverty Rates Holding Immigrant Labor Supply to 1970 Levels by Race-Ethnicity and Household Head Level of Educational Attainment

		Using Lower-Bound Wage Effects and Assuming Immigrants and Natives Are Imperfect Substitutes		Using Upper-Bound Wage Effects and Assuming Immigrants and Natives Are Imperfect Substitutes		Using Upper-Bound Wage Effects and Assuming Immigrants and Natives Are Perfect Substitutes	
	Actual Poverty Rate	Elastic Labor Supply	Inelastic Labor Supply	Elastic Labor Supply	Inelastic Labor Supply	Elastic Labor Supply	Inelastic Labor Supply
Non-Hispanic white							
Less than high school	21.2%	20.6%	20.8%	20.0%	20.4%	19.8%	20.3%
High school	10.0	9.9	9.9	10.0	9.9	9.9	9.9
Some college	7.6	7.6	7.5	7.7	7.6	7.6	7.5
College or higher	2.5	2.5	2.5	2.5	2.5	2.4	2.4
Non-Hispanic black							
Less than high school	45.3	44.5	44.6	43.4	44.1	43.0	43.8
High school	29.7	29.6	29.5	29.8	29.6	29.5	29.4
Some college	19.9	20.0	19.9	20.3	20.0	20.1	19.9
College or higher	6.2	6.1	6.1	6.0	6.0	6.0	6.0
Non-Hispanic Asian							
Less than high school	25.0	24.8	24.8	24.6	24.8	23.7	24.7
High school	10.9	10.8	10.8	11.0	10.9	10.7	10.7
Some college	8.7	8.7	8.7	8.7	8.7	8.7	8.7
College or higher	4.4	4.4	4.4	4.3	4.3	4.3	4.3
Non-Hispanic other							
Less than high school	41.3	40.3	40.8	39.1	40.1	38.7	39.7
High school	23.4	23.5	23.4	23.7	23.5	23.4	23.4
Some college	16.8	17.0	16.9	17.4	17.0	17.1	16.8
College or higher	5.7	5.7	5.7	5.6	5.6	5.6	5.6

TABLE 5.9 / *Continued*

	Actual Poverty Rate	Using Lower-Bound Wage Effects and Assuming Immigrants and Natives Are Imperfect Substitutes: Elastic Labor Supply	Using Lower-Bound Wage Effects and Assuming Immigrants and Natives Are Imperfect Substitutes: Inelastic Labor Supply	Using Upper-Bound Wage Effects and Assuming Immigrants and Natives Are Imperfect Substitutes: Elastic Labor Supply	Using Upper-Bound Wage Effects and Assuming Immigrants and Natives Are Imperfect Substitutes: Inelastic Labor Supply	Using Upper-Bound Wage Effects and Assuming Immigrants and Natives Are Perfect Substitutes: Elastic Labor Supply	Using Upper-Bound Wage Effects and Assuming Immigrants and Natives Are Perfect Substitutes: Inelastic Labor Supply
Hispanic							
Less than high school	36.6%	35.7%	36.0%	34.3%	35.5%	33.5%	35.1%
High school	19.7	19.6	19.6	19.5	19.6	19.2	19.5
Some college	13.2	13.2	13.2	13.4	13.2	13.3	13.2
College or higher	4.6	4.6	4.5	4.5	4.5	4.5	4.5

Source: Author's tabulations based on the Public Use Microdata Samples (PUMS) (U.S. Bureau of the Census, various years) and the 2005 American Community Survey (U.S. Bureau of the Census 2005).

Notes: Actual and simulated poverty rates pertain to persons in households where the household head is native-born. Simulations with elastic labor supply assume a weeks-worked labor supply elasticity of one. Simulations with inelastic labor supply assume a weeks-worked labor supply elasticity of zero. See the text for a complete discussion of the calculations of the simulated poverty rates.

to changes in weekly wages—that is, that supply is inelastic. When the simulated poverty rate is below the actual poverty rate, the simulation suggests that the 2005 poverty rate for the group in question would have been lower had the immigrant population been held to 1970 levels.

The simulation results by race-ethnicity suggest that immigration over this time period had negligible effects on poverty overall. For example, for black households the simulation using the largest adverse wage effects for high school dropouts suggests that had immigration been held to 1970 levels, the black poverty rate in 2005 would have been 25.5 percent, compared with actual poverty rates for this group of 26 percent. Among households headed by a native-born Hispanic, the lowest hypothetical poverty rate is 18.4 percent, compared to an actual poverty rate of 19.3 percent. By level of educational attainment, we find that the largest potential effects are on the poverty rates of households headed by someone with less than a high school diploma. The simulations suggest a hypothetical 2005 poverty rate between 27.2 and 28.6 percent for this group, compared to an actual poverty rate of 29.1 percent. Again, this is a relatively small impact. For households headed by a native-born person with a high school diploma or greater (the overwhelming majority of U.S. households), the effects of immigration on poverty are essentially equal to zero.

The poverty simulation results for households defined by both the race and educational attainment level of the household head (presented in table 5.9) lead to very similar conclusions. Again, the lowest simulated poverty rates imply only modest impacts of labor market competition with immigrants on native poverty rates for households headed by someone with less than a high school diploma, and there are virtually no effects of such competition for all other groups. Among the lowest-skilled households, African Americans and Hispanics experience the largest poverty effects. For example, the lowest simulated poverty rate for black households headed by someone with less than a high school diploma is 43 percent, 2.3 percentage points lower than the actual poverty rate for this group in 2005 (45.3 percent). The comparable figures for low-skilled Hispanic households are 33.5 percent and 36.6 percent.

CONCLUSION

In this chapter, we explored three possible connections between international immigration to the United States between 1970 and 2005 and the nation's poverty rate. First, we documented the increased poverty incidence among immigrants and the connections between the changing national-origin mix of the immigrant population and immigrant poverty. Second, we estimated how poverty rates change within immigrant arrival cohorts as time in the United States increases. Finally, we discussed in detail the avenues through which immigration may have an impact on the wages of the native-born; we simulated the likely wage effects of immigration between 1970 and 2005; and we simulated the consequent effects on native poverty rates.

In the end, it appears that the only substantive contribution of immigration to the national poverty rate occurs through the compositional effects of recent immigrants on the national poverty rate. Recent immigrants from Latin America and Asia tend to experience high initial poverty rates, which certainly increases the overall poverty rate relative to what it would otherwise be. This effect, however, is small. Moreover, through wage growth and selective out-migration, immigrant poverty declines quickly with time in the United States.

We find much less evidence of an impact of immigration on native poverty through immigrant-native labor market competition. Despite adverse wage effects on high school dropouts and relatively small effects on the poverty rates of high school dropouts, the effects on native poverty rates are negligible. This last result is largely driven by the fact that even most native-born poor households have at least one working adult with at least a high school education.

We thank Maria Cancian, Sheldon Danziger, and Cordelia Reimers for their valuable input into an earlier draft of this chapter.

NOTES

1. As discussed later in the chapter, these estimates are based on a model of wage determination that allows for imperfect substitutability of workers with different skill levels and allows for the accumulation of capital in response to changes in the supply of labor.
2. We analyze data from the Integrated Public Use Microdata Samples (IPUMS) collected and maintained by the University of Minnesota. We use the 1 percent samples from the 1970, 1980, 1990, and 2000 U.S. Censuses of Population and Housing and the 2005 American Community Survey.
3. Note that the census does not ask whether foreign nationals are legal residents in the United States. The census does collect information on whether the foreign-born are naturalized citizens. Thus, noncitizens include both legal residents and illegal residents who are captured in the sampling universe (all addresses that receive mail) of the census.
4. We also tabulated synthetic cohort estimates restricting the cohorts to those age eighteen to thirty-four at the time of arrival who were not enrolled in school. These estimates are quite close to those presented for all recent arrival age eighteen to thirty-four presented in table 5.4.
5. Similar positive assimilation is observed for homeownership rates (see Borjas 2002; Greulich, Quigley, and Raphael 2004). Rubén Rumbaut (1999) documents the downward assimilation of immigrants in health and behavioral outcomes; recent immigrants perform better than the native-born in these outcomes—that is, immigrant outcomes worsen over time to reflect more closely the comparable outcomes for natives.
6. Readers interested in these additional findings are referred to Raphael and Smolensky (this volume).
7. The technical details of the decomposition are presented in the notes to table 5.5.
8. Immigration may have indirect compositional effects on the national poverty rate if the native-born children of immigrants are more likely to experience poverty than the native-born children of the native-born. In other words, immigration may shift the internal composition of the native-born in a manner that tends to increase poverty rates. Indeed, the distributional patterns in table 5.3 show that the native population of Hispanic and Asian origin increased notably between 1970 and 2005, a change that, holding group poverty rates constant, tended to increase native poverty rates. The results in table 5.5 accounts for changes in the composition of the native-born, and thus our decomposition accounts for this indirect effect.
9. The discussion in this section draws heavily on the discussion in Raphael and Ronconi (2007).
10. Native employment declines if the propensity of the native-born to work depends positively on wages. That is to say, an immigration-induced decline in wages may cause some natives to withdraw from the labor force. Note, this need not be the case, theoretically. Existing empirical research on labor supply, however, suggests that labor supply increases with wages, especially for women.
11. For a more detailed discussion of the theoretical model briefly summarized here, see the working paper version of this chapter in Raphael and Smolensky (2008).

12. Of course, if immigrants enter the labor market earlier in life because they left school at a younger age, the relative youth of immigrant workers may not translate into lower average years of work experience relative to natives.
13. We first defined fifty-four groups based on age and educational attainment. We use the six educational attainment groups defined in table 5.1 and the nine age groups: eighteen to twenty-five, twenty-six to thirty, thirty-one to thirty-five, thirty-six to forty, forty-one to forty-five, forty-six to fifty, fifty-one to fifty-five, fifty-six to sixty, and sixty-one to sixty-four. The interaction of these six educational groups and nine age grouping define fifty-four age-education cells. We then use the 2000 Public Use Microdata Samples (PUMS) data to rank these groups from lowest to highest average earnings among those employed within each group. We use average earnings among native-born, non-Hispanic white men to do these rankings. We use this group to rank age-education groupings into apparent skills groups since white men are the largest subgroup in the labor market. We exclude other groups and women to abstract from the effects of race, ethnicity, and gender on wages. In other words, we wish to identify a ranking that is more likely to provide a pure reflection of average differences in skills. This ranking serves as an indication of skill endowments as they are valued by the market.
14. We simulate the effects of competition with immigrants on native poverty rates in the following manner. First, we estimate the parameters of a theoretical model that ties the wages of workers of various skill groupings to their own supply and the supply of all other workers. We then use the calibrated theoretical model to simulate the hypothetical wages that workers of various skill groups would earn if the supply of immigrant labor were held to 1970 levels. Using these alternative wage estimates, we simulate hypothetical personal income and total family income with restricted immigrant labor supply. Finally, we use these simulated family income levels to simulate what native poverty rates would have been had the immigrant population been held at 1970 levels. Note that these simulations take household composition as given. To the extent that lower wages affect household formation, our simulations may understate the impact on poverty. The theoretical model of wage determination posits that the wages of workers in a given skill level depend inversely on the supply of workers at that skill level. In addition, a given group's wages also depend on the supply of other workers. The supply of other types of workers can either suppress (when these workers are close substitutes) or increase (when these workers are complementary) the wages for a given skill group, depending primarily on the ease with which employers can substitute workers of different skill levels in producing goods and services. See Raphael and Smolensky (2008) for details on the formal model; a description of the data that we use to estimate the parameters of the model; and our alternative estimates of the impact of immigration between 1970 and 2005 on the wages of natives of different skills groups, defined by their level of educational attainment and potential years of work experience. For additional research employing these simulation methods, see Borjas (2003, 2005), Borjas, Grogger, and Hanson (2008), Card and Lemieux (2001), and Ottaviano and Peri (2005).

15. For relatively large effects, see Borjas, Grogger, and Hanson (2008); for estimates suggesting relatively small effects, see Raphael and Ronconi (2008).

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