

## Selectivity and Immigrant Employment

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### **Abstract**

The labor market contribution made by immigrant workers depends on their productivity, as determined by the skills and abilities of these workers and reflected in the hourly wages that they earn, but it also depends on how much they choose to work. Jointly modeling location and employment decisions turns out to have important implications for migrant selectivity. Existing microeconomic models of migrant self-selection ignore employment decisions, and these models demonstrate that immigrants need not be favorably selected in terms of their wages or labor market skills. By contrast, we show that immigrants are likely to be favorably selected in terms of employment rates. Moreover, the interaction between decisions regarding work and migration serves to limit the extent to which immigrants can be negatively selected in terms of skills. Empirical analysis of microdata from the 2000 U.S. Census confirms the main implication of the theoretical model. In particular, at low skill levels foreign-born men are more likely to work than U.S.-born men, whereas at high skill levels the employment rates of immigrants and natives are similar.

## **I. Introduction**

The labor market contribution made by immigrant workers depends on their productivity, as determined by the skills and abilities of these workers and reflected in the hourly wages that they earn, but it also depends on how much they choose to work. Existing research, however, has focused almost exclusively on analyzing immigrant skills and wages (Borjas 1994), for the most part ignoring labor supply. In the current paper, we seek to lessen this imbalance by emphasizing the relatively neglected topic of immigrant employment rates.<sup>1</sup> Given the substantial and growing presence of foreign-born workers in the U.S. economy, this topic will be important for public policy for the foreseeable future.

Jointly modeling location and employment decisions turns out to have important implications for migrant selectivity. Existing microeconomic models of migrant self-selection (Borjas 1987; Borjas, Bronars, and Trejo 1992) ignore employment decisions, and these models demonstrate that immigrants need not be favorably selected in terms of their wages or labor market skills. By contrast, we show that immigrants are likely to be favorably selected in terms of employment rates. Moreover, the interaction between decisions regarding work and migration serves to limit the extent to which immigrants can be negatively selected in terms of skills. Indeed, models of immigrant welfare reciprocity (Borjas and Trejo 1993; Borjas 1999) can be viewed as a special case of the framework developed here, and this interpretation makes it clear that migration for welfare benefits arises in these models only under restrictive assumptions about non-market opportunities in the source country.

Empirical analysis of microdata from the 2000 U.S. Census confirms the main

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<sup>1</sup> Existing empirical studies of immigrant labor supply include Borjas (1992), Fry (1996, 1997), and Chiswick, Cohen, and Zack (1997) for men, Schoeni (1998) for women, and Funkhouser and Trejo (1998) and Funkhouser (2000) for both

implication of the theoretical model. In particular, at low skill levels foreign-born men are more likely to work than U.S.-born men, whereas at high skill levels the employment rates of immigrants and natives are similar.

## II. A Simple Model

In this section, we present a simple economic model that jointly considers a potential migrant's decisions regarding where to locate and whether to work. This model neglects several important aspects of the immigration and employment decisions, but it does improve upon existing models and generates interesting implications absent from these models and in some cases opposite those produced by previous models. Our model suggests that immigrants are likely to have high employment rates and that this behavior should be particularly pronounced among less-skilled immigrants.

Let  $\varepsilon$  index the labor market skills or productivity of a potential migrant, normalized so that  $\varepsilon$  has a mean of zero in the source country population. Therefore, positive values of  $\varepsilon$  represent individuals with above-average skills and negative values of  $\varepsilon$  represent individuals with below-average skills. The market and non-market opportunities of individuals should they remain in the source country are described by the following equations:

$$(1) \quad \text{Source Country Market Wage:} \quad w_s = \bar{w}_s + r_s \varepsilon,$$

$$(2) \quad \text{Source Country Reservation Wage:} \quad v_s = \bar{v}_s + \beta \varepsilon.$$

The reservation wage represents the payoff that individuals receive if they choose not to work.

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genders. None of these studies, however, consider the interaction between employment decisions and immigrant selectivity that

This non-market payoff could reflect a number of different things, including the value of time spent in home production, or government transfers available to those without jobs. If individuals in the source country were to move to the destination country (i.e., the United States), their market and non-market opportunities are described by analogous equations:

$$(3) \quad \text{Destination Country Market Wage:} \quad w_d = \bar{w}_d + r_d \varepsilon,$$

$$(4) \quad \text{Destination Country Reservation Wage:} \quad v_d = \bar{v}_d + \beta \varepsilon.$$

Equations (1)-(4) make the simplifying assumption that the same skill measure  $\varepsilon$  determines an individual's market and non-market opportunities in both the source and destination countries.

In essence,  $\varepsilon$  represents those skills that transfer perfectly across countries.

As is standard in models of labor force participation, individuals choose to work whenever their market wage exceeds their reservation wage. In other words, within a given location, individuals choose the sector (market or non-market) that maximizes their payoff. The immigration decision then comes down to choosing the location that maximizes net income, taking account of migration costs. Therefore, potential migrants have an economic incentive to move to the destination country whenever

$$(5) \quad \max\{w_d, v_d\} - c > \max\{w_s, v_s\},$$

where  $c$  represents the costs of migration.

Consider the following assumptions about the parameters of this model:

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is the focus of our analysis.

$$(6) \quad r_s > \beta, \quad r_s > 0, \quad r_d > \beta, \quad r_d > 0,$$

$$(7) \quad \bar{w}_s > \bar{v}_s, \quad \bar{w}_d > \bar{v}_d,$$

$$(8) \quad \bar{w}_s > \bar{w}_d - c, \quad \bar{v}_s > \bar{v}_d - c.$$

In equations (1)-(4),  $r_s$  and  $r_d$  measure the strength of the relationship between market wages and skills in the source and destination countries, respectively, and  $\beta$  determines how non-market wages vary with skills. By using the same  $\beta$  in equations (2) and (4), we have implicitly assumed that the relationship between non-market opportunities and labor market skills is the same in the source and destination countries. Equation (6) further assumes that in both countries market wages increase with skills and that skills are more strongly related to market wages than to non-market wages. In an important sense, this is what we mean by labor market skills.

Because  $\varepsilon$  is normalized to have a mean of zero, the parameters  $\bar{w}_s$ ,  $\bar{v}_s$ ,  $\bar{w}_d$ , and  $\bar{v}_d$  represent the market and non-market wages relevant for a potential migrant with “average” skills. Equation (7) therefore implies that an individual with average skills will choose to work, regardless of whether they remain in the source country or migrate to the destination country. This assumption is plausible in the model of unattached individuals considered here, but it may need to be relaxed when the model is eventually generalized to incorporate family decisionmaking.

Finally, equation (8) ensures that the average person in the source country does not want to migrate to the destination country, either for market or non-market opportunities. This assumption is consistent with the observation that generally only a small fraction of individuals permanently leave their country of birth. In the international context, migration costs include

psychological factors such as being away from family, friends, and familiar culture, and for most people these costs are large enough to offset any potential gains from immigration.

Given these assumptions, Figure 1 illustrates some basic implications of the model. In each location, economic payoffs are the upper envelope of the opportunities available in the market and non-market sectors. Based on their skill level, individuals locate in the country that yields the greatest net payoff.

The top panel of Figure 1 depicts the case where  $r_d > r_s$ , a situation which Borjas (1987) refers to as “positive selection” because when market wages increase with skills more strongly in the destination country than in the source country, individuals with above-average skills have the most to gain from migration. In this case, only individuals with a skill level higher than  $\varepsilon^*$  are predicted to immigrate, and all of these immigrants are expected to seek market work in the destination country. Since it has been assumed that all individuals with above-average skills find it to their advantage to be employed, the current model differs little from standard models of immigrant self-selection for this case of positive selection.

The more interesting case of “negative selection” is depicted in the bottom panel of Figure 1. Here,  $r_s > r_d$ , and less-skilled individuals in the source country would have their market wages raised the most by immigration. When non-market opportunities are ignored, as in previous models, then all individuals with a skill level lower than  $\varepsilon^{**}$  are predicted to immigrate. In the current model, however, non-market opportunities in the source country provide an attractive alternative to immigration for the least-skilled individuals, and only those with a skill level between  $\varepsilon^*$  and  $\varepsilon^{**}$  are predicted to immigrate. The implication is that previous models which neglect the employment decision of immigrants may overstate the incentives for migration

by low-skilled immigrants. Finally, note that even in this situation where immigrants are negatively selected in terms of their market wages, all of those who migrate are predicted to seek work in the destination country.

This model is thus consistent with the position commonly espoused in policy debates that immigrants are primarily motivated by employment opportunities. The economic intuition for this result is straightforward. The assumptions of the model guarantee that differences between the source and destination countries in non-market opportunities are small relative to differences in market opportunities, and therefore immigration is a response to market rather than non-market opportunities. Indeed, as the model is currently constructed, differences across countries in non-market opportunities are swamped by migration costs, so nobody chooses to migrate for non-market reasons.

When  $\beta = 0$  (i.e., non-market opportunities are unrelated to labor market skills), the reservation wages become constants ( $\bar{v}_s$  and  $\bar{v}_d$ ) that resemble the income floors that figure prominently in models of immigrant welfare reciprocity (Borjas and Trejo 1993; Borjas 1999). These earlier models derive conditions under which individuals would migrate to take advantage of income transfer programs in the destination country, but these models assume the absence of an income floor or non-market wage in the source country (i.e., earlier models of immigrant welfare reciprocity assume that  $\bar{v}_s = 0$ ). The current model shows that this assumption is critical for supporting immigration in pursuit of welfare benefits or other forms of public assistance. When an income floor or reservation wage is introduced into the source country as well as the destination country, then the assumptions discussed earlier are sufficient to eliminate any incentive for welfare migration.

A key implication of the model presented here is that immigrants should have high rates

of employment. Given the assumptions of the model, individuals with average or above-average skills will seek market work regardless of where they choose to locate. It is among individuals with below-average skills, therefore, that employment rates are predicted to be high for immigrants relative to non-immigrants, because less-skilled individuals who do not intend to work are better off staying in the source country and avoiding the substantial costs of migration. In this sense, the model predicts that immigrants, specifically low-skilled immigrants, are self-selected to have strong labor force attachment. We now test this prediction empirically by comparing the employment rates of immigrants and natives. Because U.S.-born individuals did not pass through the same filter that immigrants did, low-skilled natives should not be self-selected for high employment propensities in the way that immigrants are.

### **III. Data and Basic Patterns**

The simple model of an unattached individual outlined in the previous section is most applicable to men. Because the labor supply decisions of women are often more sensitive than those of men to competing responsibilities within the household, before the model can be usefully applied to women it should first be extended to incorporate decisionmaking at the level of the family rather than that of the individual.<sup>2</sup> This extension is beyond the scope of the current paper, and therefore the empirical analysis reported here is confined to men.

We analyze microdata from the 2000 U.S. Census; these data constitute a 5 percent sample of the population. Our analysis sample includes men ages 25-59 who do not reside in institutions. We choose this age range so as to focus on men in their prime working years who

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<sup>2</sup> Such an extension of the model could proceed along the lines initially suggested by Mincer (1978) and developed further by Borjas and Bronars (1991).



likely have completed their formal schooling. Persons born abroad of American parents are excluded, because the distinction between immigrant and native is fuzzy for such individuals. Also excluded are foreign-born individuals who may have been younger than age 16 when they arrived in the United States, in order to avoid complications that arise with immigrants who arrived as children. The group we henceforth refer to as “immigrants” consists of all remaining foreign-born persons.<sup>3</sup> The final sample includes 2,746,581 natives and 374,785 immigrants.

For this sample, Table 1 reports employment rates by nativity. Here, the employment rate represents the percentage of men who were employed at any time during the calendar preceding the Census (i.e., for the 2000 Census data used in Table 1, the employment rate represents work incidence during calendar year 1999). Standard errors are shown in parentheses. For each nativity group, employment rates are reported separately by education group, as well as separately for recent immigrant arrivals (who have been in the United States for at most five years at the time of the Census) and for earlier immigrants (who have lived in the United States for six or more years). The lowest education category, which we will sometimes refer to as high school “dropouts,” consists of those who have completed fewer than 12 years of schooling. The next category, those with exactly 12 years of schooling, is dominated by high school graduates, but it also includes persons who completed twelfth grade but did not receive a diploma, as well as persons who completed high school by means of an equivalency exam such as the General Equivalency Diploma (GED). The education category for 13-15 years of schooling includes those with some college but not a bachelor’s degree, and the highest education category represents those with at least a bachelor’s degree.

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<sup>3</sup> Throughout this paper, we use the term “immigrant” as synonymous with foreign-born individuals, in contrast to the official terminology used by the U.S. government in which immigrants are legal permanent residents, and other foreigners such

The employment rates in Table 1 follow the pattern predicted by the simple model proposed here. Overall, male employment rates are similar for natives (91 percent) and immigrants (89 percent), but immigrant-native employment differences vary enormously by education level. Among high school dropouts, the employment rates of foreign-born men exceed those of U.S.-born men by 12 percentage points, whereas employment rates are nearly identical (at around 88 percent) for immigrants and natives with 12 years of schooling. Among those with more than a high school education, employment rates are 3-4 percentage points higher for natives than for immigrants. As our model leads us to expect, immigrant men display high employment propensities, relative to native men, only among those with low observable skills. Moreover, the magnitude of the immigrant employment advantage among low-skilled men is striking.

This pattern becomes even sharper once immigrants are disaggregated by their year of arrival in the United States. Immigrant employment rates are 7-10 percentage points lower for recent arrivals—men who have been in the country for five years or less—than for earlier arrivals. The single cross-section of Census data analyzed here is incapable of distinguishing assimilation and cohort effects (Borjas 1985, 1995), but other studies that follow immigrant arrival cohorts across Censuses show that the depressed labor force activity of recent arrivals primarily represents an adjustment process that all immigrant cohorts experience during their first few years in the United States.<sup>4</sup> Figure 2 illustrates this process of immigrant employment adjustment in greater detail.<sup>5</sup> The employment rate of immigrant men shoots up by almost

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as tourists, business travelers, and recent refugee arrivals are “nonimmigrant aliens.” The Census data analyzed here cannot make such distinctions among foreign-born individuals.

<sup>4</sup> See, for example, Chiswick, Cohen, and Zach (1997), Funkhouser and Trejo (1998), Schoeni (1998), Funkhouser (2000), and Antecol, Kuhn and Trejo (2006).

<sup>5</sup> Figure 2 was constructed from regression estimates that also control for each individual’s age and their geographic location within the United States, but the pattern is similar without these controls.

twenty percentage points during the first few years following arrival, and thereafter employment rises more slowly with further time in the United States until after about 13 years the immigrant employment rate converges to the 91 percent rate of U.S.-born men.

For our purposes, the key point is to disregard the recent arrivals and instead focus on the employment rates of immigrants who have been here long enough to be past the initial period of adjustment to the U.S. labor market. Consider, for example, the immigrant men in Table 1 who have lived in the United States for six or more years. Overall, the employment rate for these men is just half a percentage point below the corresponding rate for natives. In the lowest education group—those with less than 12 years of schooling—these immigrants hold a 14 percentage point employment rate advantage over U.S.-born men. In all of the other education groups, employment rates do not differ much by nativity, once we focus on immigrants who have had some time to adjust to their new surroundings. In line with the predictions of our model, at low skill levels foreign-born men are more likely to work than U.S.-born men, whereas at high skill levels the employment propensities of immigrants and natives are similar.

In terms of broader implications, Table 1 also suggests that finding paid employment is not a major problem for U.S. immigrants. After a period of adjustment during the first few years upon arrival, the overall employment rate of immigrant men quickly approaches that of U.S. natives. Among those with the lowest education levels, immigrants exhibit substantially higher rates of employment than comparable natives. Despite ongoing structural changes in the U.S. labor market—including the widening of the earnings distribution and the steep rise in the reward associated with additional years of formal schooling<sup>6</sup>—employer demand for low-skill immigrant workers has remained high. Reinforcing this conclusion is the fact that male employment rates

for Mexican immigrants are similar to those for immigrant men as a whole, notwithstanding the very low educational attainment of most Mexican immigrants.<sup>7</sup>

A potential problem with this evidence is that the patterns in Table 1 might be the spurious result of differences in the characteristics of immigrant and native men that are correlated with employment. To explore this issue, Table 2 reports sample means, by nativity and education level, for some important determinants of employment propensities. Several noteworthy points emerge from Table 2. First, among high school dropouts (i.e., the columns in Table 2 labeled as “Ed<12”), immigrants are almost three years younger than natives on average, whereas at higher education levels the age differential is only one year. Second, the immigrant population is much more ethnically diverse than the native population.<sup>8</sup> Along these lines, also note that Hispanics and blacks represent disproportionate shares of U.S.-born men with less than 12 years of schooling. Third, immigrants are more geographically concentrated in particular regions (e.g., over 40 percent of immigrant dropouts live on the West Coast) than are natives, and immigrants are also more likely to live in urban settings (e.g., only seven percent of immigrant dropouts reside outside of metropolitan areas, whereas the corresponding figure for natives is 27 percent). Finally, although the percentage of men who are married and living with their wives is the same (63 percent) for both immigrants and natives overall, among high school dropouts the

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<sup>6</sup> See, for example, Levy and Murnane (1992) and Autor and Katz (1999).

<sup>7</sup> Though not shown in Table 1, the corresponding male employment rates are 88 percent for all Mexican immigrants and 90 percent for Mexican immigrants who have lived in the United States for at least six years. Two-thirds of Mexican immigrant men in the United States possess less than 12 years of schooling.

<sup>8</sup> Using answers to the Census questions regarding Hispanic origin and race, we assign each individual to one of five mutually exclusive and exhaustive racial/ethnic groups: Hispanic (of any race), and non-Hispanic white, black, Asian, and a residual “other race” category. Starting in 2000, the U.S. Census permits respondents to designate more than one race (Grieco and Cassidy 2001; del Pinal 2004). The Hispanic origin question, however, still requires a single response. The “other race” category includes any non-Hispanics who gave two or more race responses, as well as those who identified with an “American Indian or Alaskan Native” group. Therefore, the non-Hispanic categories “white,” “black,” and “Asian” represent individuals who designated a single race response.

marriage rate is noticeably higher for immigrants (59 percent) than for natives (51 percent). In the next section, we use regression analysis to investigate the influence of these and other factors on immigrant-native employment differences.

Before turning to the regression analysis, however, Table 3 sets the stage by showing how educational distributions differ between immigrant and native men, and by race/ethnicity within nativity.<sup>9</sup> Fully a third of foreign-born men have less than 12 years of schooling, compared to only 9 percent of U.S.-born men. Though not shown in Table 3, the contrast is even more striking for men with less than 9 years of schooling: this group represents 24 percent of the immigrant population and less than 3 percent of the native population. Looking at this same phenomenon from a slightly different perspective, immigrants comprise only about 13 percent of the overall sample of men in Table 3, but they make up 35 percent of the men with less than 12 years of schooling and almost 60 percent of the men with less than 9 years of schooling. Clearly, immigrants are disproportionately concentrated among U.S. workers with the lowest education levels.

At the same time, however, immigrants are well represented among U.S. workers with the highest education levels. Completion of a bachelor's degree is about equally common for foreign-born men (27 percent) as for U.S.-born men (28 percent), whereas a higher fraction of foreign-born than U.S.-born men earn postgraduate degrees (13 percent versus 10 percent, though this education category is not separately identified in Table 3). Immigrants are overrepresented at the bottom and, to a lesser extent, the top of the U.S. educational distribution, and they are underrepresented in the middle (with 40 percent of immigrants, compared to 63 percent of natives, completing 12-15 years of schooling).

Table 3 also highlights important variation in educational attainment by race/ethnicity. Among Hispanic immigrants, for example, 55 percent of men have less than 12 years of schooling and only 8 percent have completed a bachelor's degree. The educational distribution is reversed, however, among Asian immigrants, for whom just 12 percent of men are high school dropouts and 51 percent are college graduates. The educational distribution of white immigrants is similar to that of Asian immigrants, whereas the distribution of black immigrants has more weight in the middle categories representing high school graduates and those with some college. The patterns of racial/ethnic differences in educational attainment among native men are broadly similar to those among immigrant men, although the magnitude of the differences are somewhat attenuated (especially between Hispanics and non-Hispanics). As discussed further below, the racial/ethnic variation in educational distributions can help inform the regression results that follow.

#### IV. Regression Analysis

Let  $y_{ei}$  be a dummy variable indicating whether individual  $i$  from educational category  $e$  was employed at any time during the calendar year preceding the Census. For the pooled sample of native and immigrant men in a particular education category, consider regression equations of the form:

$$(9) \quad y_{ei} = I_{ei}\delta_e + X_{ei}\beta_e + \varepsilon_{ei},$$

where  $I$  is a set of dummies identifying various groups of immigrant men (with all of these

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<sup>9</sup> Though not shown, the educational distributions of women are similar.

dummies set to zero for native men), the vector  $X$  contains other determinants of employment,  $\varepsilon$  is a random error term, and the remaining parameters are the objects of estimation. The key parameters of interest in these regressions are the elements of the vector  $\delta$ , which represent the residual employment differentials between immigrant and native men within a particular education category, after accounting for the influence of the control variables in  $X$ . The baseline set of control variables includes dummies identifying five-year age groups, Census divisions, and whether the individual resides outside of a metropolitan area.

Previously, we noted that newly-arrived immigrant cohorts experience a process of labor market adjustment in which employment rates are initially low but rise rapidly during the first few years of U.S. residence (see the prior discussion of Table 1 and Figure 2). For this reason, our analysis will downplay the results for recent arrivals and instead focus on the employment rates of immigrants who have been here long enough to be past this initial period of adjustment to the U.S. labor market. To distinguish recent arrivals from other immigrants, the baseline specification of the vector  $I$  identifying immigrant groups will include two dummy variables, one identifying foreign-born men who have been in the United States for five years or less, and the other identifying all remaining foreign-born men (i.e., those who have lived in this country for at least six years).

For the data and sample described in the previous section, Table 4 reports least squares estimates of the coefficients of these immigrant dummies.<sup>10</sup> Separate regressions are run for each educational category. For comparison with later specifications, panel A of Table 4 shows estimates from regressions that do not include any control variables. These estimates simply

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<sup>10</sup> Although the dependent variable in these regressions is a dichotomous indicator of employment status, we choose to report least squares estimates (i.e., linear probability models) because the coefficients are easier to interpret. Probit estimates,

reproduce the unadjusted immigrant-native employment differentials implicit in Table 1. For the reasons discussed above, we emphasize the comparisons between natives and immigrants who have been in the United States for at least six years. As we saw previously in Table 1, among men in the lowest education group (i.e., high school dropouts), the employment rate is a remarkable 14 percentage points higher for such “non-recent” immigrants than for natives. In sharp contrast, the employment rate is similar for non-recent immigrants and natives within each of the other education groups (specifically, immigrants hold a one percentage point employment rate advantage over natives among high school graduates, but the differential is reversed, with a 1.2-1.4 percentage point advantage for natives, among men with some college or a bachelor’s degree).

The remaining panels of Table 4 show how immigrant-native employment differentials change after conditioning on successively more control variables. The regressions reported in panel B add the controls for age and geographic location.<sup>11</sup> These controls have little effect on the pattern of immigrant-native employment differentials, especially for immigrants with at least six years of U.S. residence.

Marital status is known to be a strong correlate of employment, with married men possessing much higher employment propensities than unmarried men. In discussing Table 2, we noted that immigrant and native men exhibit similar marriage rates overall, but among high school dropouts the marriage rate is distinctly higher for immigrants than for natives. Could this be driving the pattern of immigrant-native employment differentials by education group? The

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however, imply similar marginal effects. In order to account for the heteroskedasticity that arises with linear probability models (or for other reasons), we report robust standard errors (White 1980) in parentheses for all regressions.

<sup>11</sup> The controls for age are dummy variables identifying five-year age intervals (i.e., 30-34, 35-39, ..., 55-59, with 25-29 serving as the omitted reference group). The controls for geographic location are dummy variables identifying the nine



regressions reported in panel C of Table 4 add an indicator for men who are “married, spouse present” (i.e., married and living with their wives) to the age and geographic controls employed in panel B. Marital status does indeed exert a strong influence on employment rates, and this effect is particularly strong for men in the lowest education group. All else equal, married high school dropouts are 17 percentage points more likely to be employed than their unmarried peers, and the magnitude of the marriage effect declines monotonically with education level, falling all the way to 4.5 percentage points for college graduates.

Despite the strength of the relationship between marriage and male employment, however, conditioning on marital status weakens only slightly the empirical pattern that immigrant-native employment differentials are particularly large and positive for unskilled men. In panel C, the employment advantage of non-recent immigrants relative to natives is 11 percentage points among high school dropouts, whereas the corresponding differentials for other education groups are close to zero (ranging from an immigrant advantage of 0.6 percentage points to a native advantage of 1.6 percentage points). Clearly, nativity differences in the marriage rates of unskilled men come nowhere close to fully accounting for the pattern of immigrant-native employment differentials across education groups.

Another potentially confounding factor is the presence of disabilities that limit or prevent work. The 2000 Census data identify individuals who—because of a physical, mental, or emotional condition lasting six months or more—have any difficulty working at a job or business. This definition of work disability seeks to exclude temporary health conditions such as broken bones or pregnancies. By this measure, Table 2 shows that, overall, immigrant men

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Census divisions (with the Pacific region serving as the omitted reference group) and whether the respondent lives outside of a metropolitan area.

report much higher rates of work disability than native men (20 percent for immigrants versus 13 percent for natives), but the differential almost vanishes among high school dropouts (25 percent for immigrants versus 24 percent for natives). At any rate, adding the indicator for work disability as another control variable in the employment regressions has little impact on the estimated nativity differentials, even though self-reports of a work disability are associated with sharp reductions in employment propensities (see panel D of Table 4).

In discussing Table 2, we noted that blacks represent a disproportionate share of native dropouts. For a variety of reasons, employment rates are particularly low for black men (Welch 1990, Juhn 1992), which raises the concern that the employment comparison between low-skill immigrants and natives is distorted by the unique circumstances of blacks and other disadvantaged minority groups in the native population. To address this concern, panel A of Table 5 reports coefficients from regressions identical to those in panel C of Table 4, except that Hispanics and anyone with a race response other than “white” have been excluded from the native sample. Therefore, these coefficients represent employment differentials between immigrants (of all race/ethnicities) and non-Hispanic white natives. The same qualitative patterns emerge as before, although the immigrant employment advantage among high school dropouts declines somewhat (from 11 percentage points for non-recent immigrants in panel C of Table 4 to 7 percentage points in panel A of Table 5). Even when the native sample is limited to non-Hispanic whites, immigrant-native employment patterns continue to conform to the theoretical predictions.

Table 2 also showed that high school dropouts constitute a much larger fraction of the immigrant population than of the native population. In large part, this difference stems from the fact that many immigrants originate in less developed countries where overall education levels

are lower than in the United States. In industrialized countries like the United States, the unusually low educational attainment of high school dropouts may signal that these individuals are particularly disadvantaged in ways (e.g., ability, motivation, health, family background) likely to reduce employment rates. In contrast, a similarly low education level may not signal these same things for immigrants who come from countries where high school dropouts are not as far in the bottom tail of the educational distribution. From Table 3, note that the fractions of immigrant and native men in the lowest education group are much more similar when both samples are limited to non-Hispanic whites (i.e., 8 percent of white immigrants are high school dropouts, compared to 10 percent of white natives). This is not surprising, because non-Hispanic white immigrants to the United States tend to originate in countries at a relatively advanced stage of economic and social development. In particular, white immigrants typically come from countries that are comparable to the United States in terms of educational attainment. Therefore, comparisons between U.S. immigrants and natives within the non-Hispanic white population should be much less vulnerable to the criticism that immigrant and native dropouts differ systematically in unobserved factors associated with educational selectivity.

To explore this issue, the remaining panels of Table 5 report separate results for immigrants from each of the four primary racial/ethnic groups: Hispanics, non-Hispanic whites, non-Hispanic blacks, and non-Hispanic Asians. In every case, immigrants are compared to the same native sample comprised of U.S.-born, non-Hispanic whites.<sup>12</sup> These regressions control for age, geographic location, and marital status (i.e., the same specification as in panel C of Table

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<sup>12</sup> Alternatively, we could compare immigrants in each racial/ethnic group to their native peers of the same race/ethnicity (e.g., compare Hispanic immigrants with Hispanic natives, Asian immigrants with Asian natives, and so on). Doing so changes the magnitudes of some of the estimated immigrant-native employment differentials (not surprisingly, because the native comparison group changes), but we continue to get the same general pattern for how employment differentials vary across education groups.

4 and panel A of Table 5). Immigrants from every racial/ethnic group display the same basic pattern of employment differentials observed previously: a substantial employment advantage for immigrants, relative to natives, among high school dropouts, but not among any of the other education groups. That the pattern is similar for immigrants from every racial/ethnic group, and in particular that it emerges when both the immigrant and native samples are limited to non-Hispanic whites, provides some evidence in support of the robustness of our main finding.

Table 6 offers a couple of additional checks on the robustness of our main finding. In panel A, non-recent immigrants are distinguished according to whether or not they have become naturalized U.S. citizens.<sup>13</sup> Perhaps low-skill immigrants have relatively high employment rates because their foreign-born status sometimes makes them ineligible for various income transfer programs that low-skill natives can more easily tap. In general, however, naturalized U.S. citizens enjoy the same program eligibility as U.S.-born natives, so the above argument would lead us to expect different patterns of employment for immigrants according to their citizenship status. Specifically, the immigrant employment advantage, relative to natives, among high school dropouts should be particularly pronounced for non-citizen immigrants who may have less access to government transfer programs. Instead, the results in panel A show that the patterns are similar for citizen and non-citizen immigrants, which contradicts the argument.

Finally, panels B and C of Table 6 report the results of regressions that split the sample into younger men (ages 25-44) and older men (ages 45-59). The same pattern that we have seen throughout our empirical analysis emerges for both age groups, but it is a bit stronger for older men. That the pattern shows up for younger men, even if in a somewhat attenuated form,

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<sup>13</sup> Except under unusual circumstances, U.S. immigrants are not eligible to naturalize until they have been in the country for at least five years, so we do not bother to distinguish recent immigrants by their citizenship status. In our data, about 5 percent of recent immigrants report having naturalized, compared to 40 percent of non-recent immigrants.

suggests that the finding is not primarily due to aspects of U.S. social support policy that may be more easily accessed by natives than by immigrants.

## **V. Conclusion**

This paper has studied the employment decisions of male immigrants in the United States. A simple theoretical model of migrant selectivity suggests that immigrants should have relatively high employment rates and that this pattern should be particularly pronounced among less-skilled immigrants. Empirical analysis of microdata from the 2000 U.S. Census confirms the main implication of the theoretical model. Among high school dropouts, foreign-born men are much more likely to work than U.S.-born men, whereas among men with at least 12 years of schooling, the employment rates of immigrants and natives are similar.

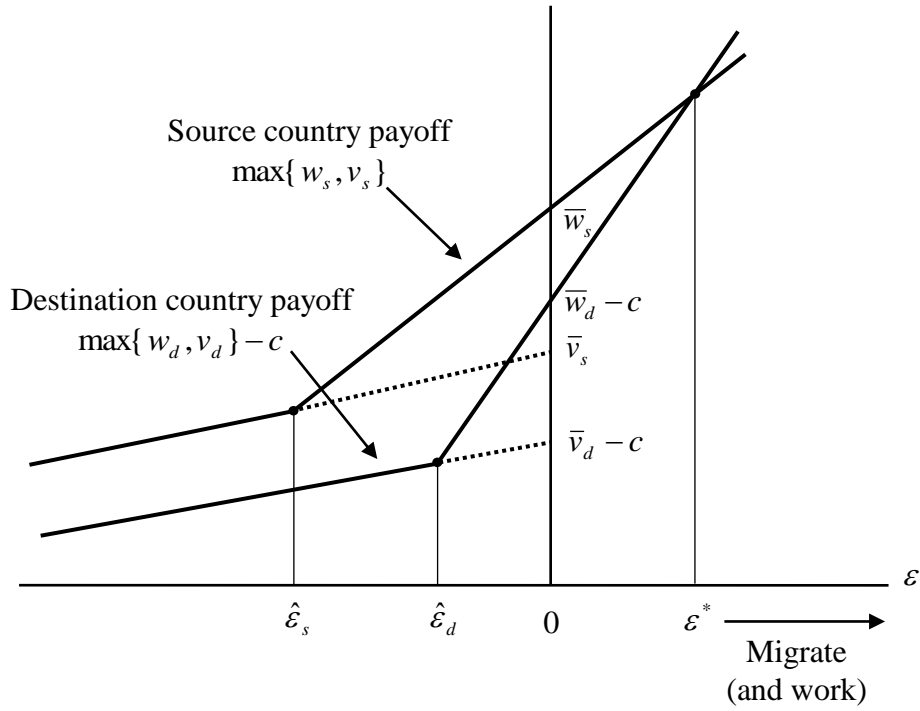
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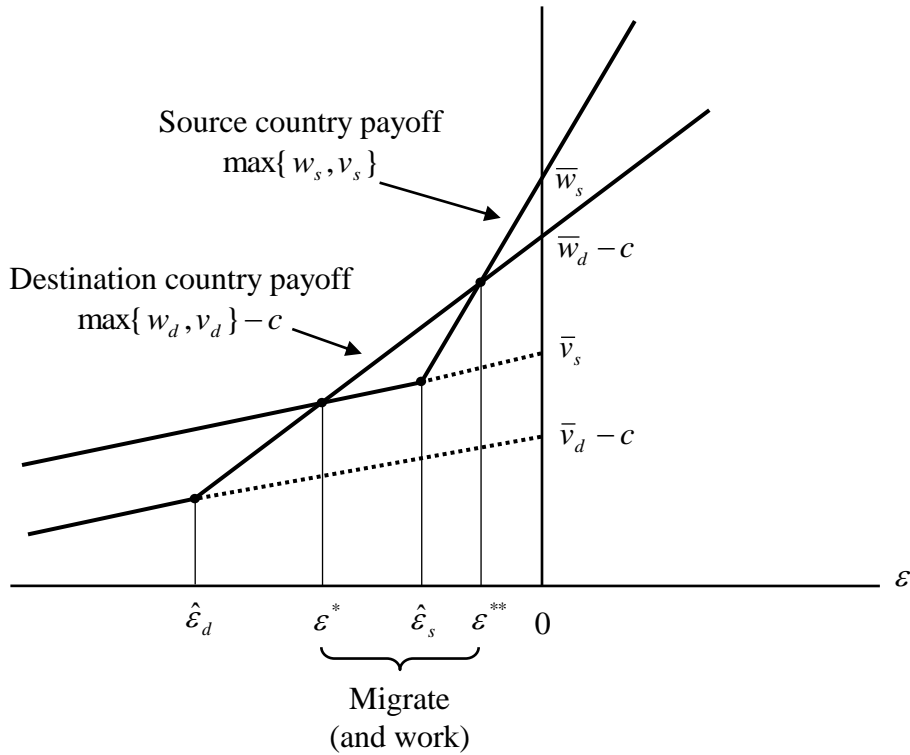
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Figure 1

A)  $r_d > r_s$  (Positive Selection)

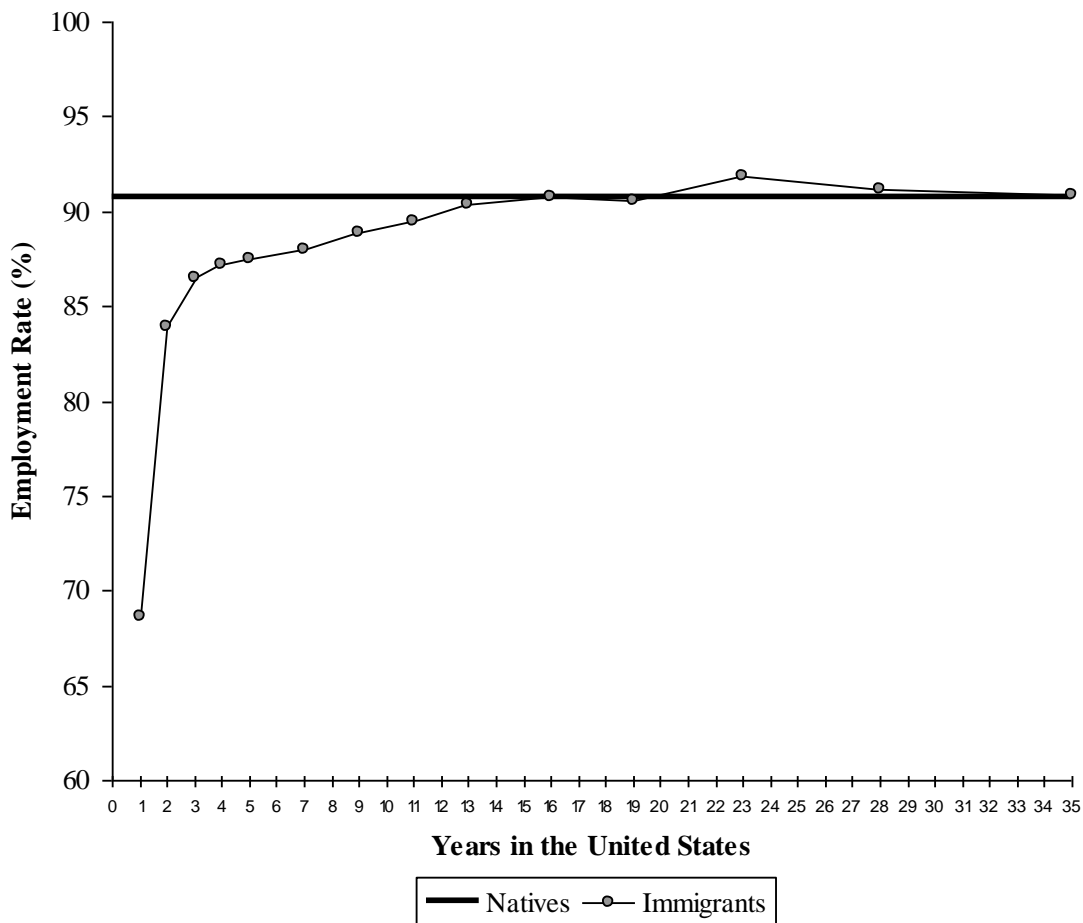


B)  $r_s > r_d$  (Negative Selection)





**Figure 2: Male Employment Rates by Nativity and Years in U.S.**



**Table 1: Male Employment Rates (%), by Nativity, Years in U.S., and Education Level**

	All Education Levels	Completed Years of Education:			
		<12	12	13-15	16+
Natives	90.8 (0.02)	72.6 (0.09)	88.5 (0.03)	93.3 (0.03)	96.5 (0.02)
Immigrants:					
All	88.5 (0.05)	84.9 (0.10)	87.7 (0.11)	90.3 (0.12)	92.5 (0.08)
0-5 Years in U.S.	82.7 (0.13)	78.5 (0.25)	81.8 (0.27)	83.3 (0.34)	86.5 (0.20)
6+ Years in U.S.	90.3 (0.06)	86.6 (0.11)	89.5 (0.12)	92.1 (0.12)	95.1 (0.08)

Source: 2000 U.S. Census data.

Note: The reported statistics give the percentage of individuals who were employed at any time during the calendar year preceding the Census, with standard errors shown in parentheses. The samples include men ages 25-59 who do not reside in institutions. Excluded are persons born abroad of American parents and foreign-born individuals who may have been younger than age 16 when they arrived in the United States. The sample sizes are 2,746,581 for natives and 374,785 for immigrants. Sampling weights were used in the calculations.

**Table 2: Sample Means, by Nativity and Education Level**

Variable	Natives			Immigrants		
	All	Ed<12	Ed≥12	All	Ed<12	Ed≥12
Age	41.3 (0.01)	42.3 (0.02)	41.2 (0.01)	39.9 (0.02)	39.6 (0.03)	40.1 (0.02)
Race/Ethnicity (%):						
Hispanic	4.9	10.0	4.4	49.3	81.9	33.2
Non-Hispanic						
White	81.4	68.5	82.7	17.0	5.2	22.9
Black	11.0	18.1	10.3	6.5	2.6	8.5
Asian	0.7	0.3	0.7	23.2	8.3	30.5
Other Race	2.0	3.1	1.9	4.0	2.0	5.0
Census Division (%):						
New England	5.2	3.7	5.3	4.5	3.2	5.1
Middle Atlantic	13.1	10.7	13.3	19.4	13.9	22.1
East North Central	17.4	15.7	17.5	9.0	7.7	9.6
West North Central	7.6	5.6	7.8	2.3	2.2	2.4
South Atlantic	18.8	24.2	18.3	16.4	12.9	18.1
East South Central	6.8	12.1	6.3	1.3	1.0	1.4
West South Central	10.9	14.2	10.6	10.6	15.5	8.3
Mountain	6.7	4.8	6.8	5.3	7.2	4.4
Pacific	13.6	9.0	14.0	31.2	36.3	28.7
Non-Metropolitan (%)	17.7	27.0	16.8	4.4	6.8	3.2
Married (%)	63.0	51.3	64.1	63.3	58.7	65.5
Work Disability (%)	12.5	24.1	11.3	20.2	25.4	17.6
Recent Immigrant (%)	0.0	0.0	0.0	23.9	20.9	25.4
Naturalized Citizen (%)	0.0	0.0	0.0	32.3	21.6	37.5

Source: 2000 U.S. Census data.

Note: Standard errors are shown in parentheses. The samples include men ages 25-59 who do not reside in institutions. Excluded are persons born abroad of American parents and foreign-born individuals who may have been younger than age 16 when they arrived in the United States. The sample sizes are 2,746,581 for natives and 374,785 for immigrants. Recent immigrants are defined as foreign-born individuals who have been in the United States for five years or less. Sampling weights were used in the calculations.

**Table 3: Educational Distributions (%), by Nativity and Race/Ethnicity**

	Completed Years of Education:				All Education Levels
	<12	12	13-15	16+	
<b>Natives:</b>					
All	9.0	32.4	30.5	28.2	100.0%
Hispanic	18.5	35.5	31.4	14.6	100.0%
Non-Hispanic					
White	7.6	31.1	30.4	31.0	100.0%
Black	14.8	41.4	30.2	13.6	100.0%
Asian	3.9	16.6	29.5	50.0	100.0%
Other Race	13.6	34.0	34.0	18.5	100.0%
<b>Immigrants:</b>					
All	33.0	23.9	16.4	26.8	100.0%
Hispanic	54.9	25.3	12.0	7.9	100.0%
Non-Hispanic					
White	10.1	22.9	20.7	46.3	100.0%
Black	13.0	32.2	26.5	28.3	100.0%
Asian	11.8	18.1	18.8	51.3	100.0%
Other Race	16.5	30.6	21.0	32.0	100.0%

Source: 2000 U.S. Census data.

Note: The reported statistics show the percentage of individuals from each nativity group and race/ethnicity who fall within a particular educational category. The samples include men ages 25-59 who do not reside in institutions. Excluded are persons born abroad of American parents and foreign-born individuals who may have been younger than age 16 when they arrived in the United States. The sample sizes are 2,746,581 for natives and 374,785 for immigrants. Sampling weights were used in the calculations.

**Table 4: Immigrant-Native Employment Differentials, by Education Level**

	Completed Years of Education:			
	<12	12	13-15	16+
<b>A. No Control Variables</b>				
Immigrants with:				
0-5 Years in U.S.	.059 (.003)	-.067 (.003)	-.100 (.004)	-.100 (.002)
6+ Years in U.S.	.140 (.002)	.010 (.001)	-.012 (.001)	-.014 (.001)
<b>B. Add Controls for Age and Geographic Location</b>				
Immigrants with:				
0-5 Years in U.S.	.026 (.003)	-.078 (.003)	-.113 (.004)	-.106 (.002)
6+ Years in U.S.	.135 (.002)	.017 (.001)	-.008 (.001)	-.014 (.001)
<b>C. Add Control for Marital Status</b>				
Immigrants with:				
0-5 Years in U.S.	.040 (.003)	-.074 (.003)	-.108 (.004)	-.105 (.002)
6+ Years in U.S.	.106 (.002)	.006 (.001)	-.012 (.001)	-.016 (.001)
Married, Spouse Present	.171 (.002)	.117 (.001)	.074 (.001)	.045 (.001)
<b>D. Add Control for Work Disability</b>				
Immigrants with:				
0-5 Years in U.S.	.040 (.003)	-.067 (.003)	-.100 (.004)	-.102 (.002)
6+ Years in U.S.	.110 (.002)	.016 (.001)	-.002 (.001)	-.010 (.001)
Married, Spouse Present	.167 (.002)	.110 (.001)	.067 (.001)	.042 (.001)
Work Disability	-.108 (.002)	-.110 (.001)	-.127 (.001)	-.083 (.002)

Source: 2000 U.S. Census data.

Note: The reported figures are estimated coefficients from least squares regressions, run separately by education category, in which the dependent variable is a dummy identifying individuals who were employed at any time during the calendar year preceding the Census. Heteroskedasticity-robust standard errors are shown in parentheses. The samples include men ages 25-59 who do not reside in institutions. Excluded are persons born abroad of American parents and foreign-born individuals who may have been younger than age 16 when they arrived in the United States. Sampling weights were used in the calculations.

**Table 5: Immigrant-Native Employment Differentials, by Education Level and Race/Ethnicity, with Natives Limited to Non-Hispanic Whites**

	Completed Years of Education:			
	<12	12	13-15	16+
<b>A. All Immigrants</b>				
Immigrants with:				
0-5 Years in U.S.	-.0001 (.003)	-.097 (.003)	-.116 (.004)	-.107 (.002)
6+ Years in U.S.	.074 (.002)	-.013 (.001)	-.020 (.001)	-.018 (.001)
Married, Spouse Present	.142 (.002)	.094 (.001)	.064 (.001)	.042 (.001)
<b>B. Hispanic Immigrants</b>				
Immigrants with:				
0-5 Years in U.S.	.005 (.003)	-.088 (.004)	-.087 (.006)	-.121 (.006)
6+ Years in U.S.	.080 (.002)	-.015 (.002)	-.019 (.002)	-.024 (.003)
Married, Spouse Present	.147 (.002)	.096 (.001)	.064 (.001)	.040 (.001)
<b>C. Non-Hispanic White Immigrants</b>				
Immigrants with:				
0-5 Years in U.S.	-.063 (.014)	-.095 (.006)	-.100 (.007)	-.065 (.003)
6+ Years in U.S.	.059 (.006)	-.0004 (.003)	-.008 (.003)	-.007 (.001)
Married, Spouse Present	.186 (.002)	.096 (.001)	.064 (.001)	.040 (.001)
<b>D. Non-Hispanic Black Immigrants</b>				
Immigrants with:				
0-5 Years in U.S.	-.106 (.022)	-.146 (.012)	-.100 (.011)	-.136 (.012)
6+ Years in U.S.	.069 (.009)	-.037 (.005)	-.032 (.005)	-.022 (.004)
Married, Spouse Present	.187 (.002)	.097 (.001)	.064 (.001)	.040 (.001)
<b>E. Non-Hispanic Asian Immigrants</b>				
Immigrants with:				
0-5 Years in U.S.	.004 (.011)	-.097 (.008)	-.190 (.010)	-.125 (.003)
6+ Years in U.S.	.044 (.005)	-.006 (.003)	-.024 (.003)	-.019 (.001)
Married, Spouse Present	.183 (.002)	.096 (.001)	.064 (.001)	.041 (.001)

Source: 2000 U.S. Census data.

Note: The reported figures are estimated coefficients from least squares regressions, run separately by education category, in which the dependent variable is a dummy identifying individuals who were employed at any time during the calendar year preceding the Census. Heteroskedasticity-robust standard errors are shown in parentheses. The samples include men ages 25-59 who do not reside in institutions. Excluded are persons born abroad of American parents and foreign-born individuals who may have been younger than age 16 when they arrived in the United States. The native samples are limited to non-Hispanic whites. All regressions include controls for age, geographic location, and marital status. Sampling weights were used in the calculations.

**Table 6: Immigrant-Native Employment Differentials, by Education Level, Citizenship, and Age Group, with Natives Limited to Non-Hispanic Whites**

	Completed Years of Education:			
	<12	12	13-15	16+
<b>A. All Ages, By Citizenship</b>				
Immigrants with 0-5 Years in U.S.	-.0005 (.003)	-.097 (.003)	-.117 (.004)	-.108 (.002)
Immigrants with 6+ Years in U.S.:				
Non-citizens	.071 (.002)	-.019 (.002)	-.032 (.002)	-.027 (.001)
Naturalized Citizens	.084 (.003)	-.004 (.002)	-.010 (.002)	-.010 (.001)
Married, Spouse Present	.142 (.002)	.094 (.001)	.064 (.001)	.042 (.001)
<b>B. Ages 25-44</b>				
Immigrants with:				
0-5 Years in U.S.	-.017 (.004)	-.103 (.003)	-.124 (.004)	-.110 (.002)
6+ Years in U.S.	.057 (.002)	-.022 (.002)	-.027 (.002)	-.025 (.001)
Married, Spouse Present	.129 (.002)	.082 (.001)	.050 (.001)	.032 (.001)
<b>C. Ages 45-59</b>				
Immigrants with:				
0-5 Years in U.S.	.051 (.008)	-.073 (.008)	-.082 (.009)	-.099 (.006)
6+ Years in U.S.	.102 (.003)	.003 (.003)	-.010 (.002)	-.009 (.001)
Married, Spouse Present	.167 (.003)	.119 (.002)	.090 (.002)	.060 (.001)

Source: 2000 U.S. Census data.

Note: The reported figures are estimated coefficients from least squares regressions, run separately by education category, in which the dependent variable is a dummy identifying individuals who were employed at any time during the calendar year preceding the Census. Heteroskedasticity-robust standard errors are shown in parentheses. The samples include men ages 25-59 who do not reside in institutions. Excluded are persons born abroad of American parents and foreign-born individuals who may have been younger than age 16 when they arrived in the United States. The native samples are limited to non-Hispanic whites. All regressions include controls for age, geographic location, and marital status. Sampling weights were used in the calculations.