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**Family Unification, Siblings, and Skills\***

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\*This paper, which was published in the now out-of-print book *Immigrants and Immigration Policy: Individual Skills, Family Ties, and Group Identities* (JAI Press, 1996), edited by Harriet Duleep and Phanindra Wunnava, finds that sibling admissions have a large positive effect on immigrant self-employment that overshadows the effects of all other explanatory variables. For informing the debate on family admissions, it would be helpful to replicate this work with more recent data.

## Family Unification, Siblings, and Skills

### ABSTRACT

Recently proposed immigration reforms would constitute a major break in the 40-year-old U.S. admissions policy favoring family members. Although emphasizing the importance of the nuclear family, the U.S. Commission on Immigration Reform and a house subcommittee on immigration recommend eliminating immigration preferences to other close relatives, including the brothers, sisters, and adult children of U.S. citizens. Under the proposed system, those relatives could not obtain U.S. visas unless they qualified because of specific job skills.

Using Immigration and Naturalization Service (INS) data on admissions criteria matched to 1990 Census data, we examine the effect of family admissions on immigrant education, self-employment, and earnings. Of particular relevance to the current debate, we also examine the effect of one of the family-based admission categories recommended for elimination -- the preference category that admits the siblings of U.S. citizens.

We find that family-based immigrants, in general, have low initial earnings but high earnings growth relative to immigrants admitted on the basis of occupational skills. The earnings growth of immigrants is particularly high in cohorts with relatively high sibling admissions. Furthermore, sibling admissions are positively associated with immigrant self-employment. We also find that immigrant education levels are positively associated with sibling admissions and that the flows of occupation-based immigrants and immigrants admitted under the sibling category are intimately connected, particularly for immigrants from regions of the world where economic opportunities are limited for highly educated individuals. The results on earnings growth, self-employment, and education suggest that eliminating the sibling category may be counterproductive.

More generally, the paper adds to our basic knowledge about the complex interactions of admission categories, human capital investment, and earnings growth.

JEL Classification: J15, J24, J61, K37

Keywords: immigrant economic assimilation, human capital investment, country of origin, immigrant earnings convergence, immigration law

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## FAMILY UNIFICATION, SIBLINGS, AND SKILLS

Harriet Orcutt Duleep and Mark C. Regets

Family unification has been the cornerstone of U.S. immigration policy since the Immigration Act of 1965; only a minority of admissions are on the basis of occupational skills. There has, however, been a movement to adopt a less family-based system. For many years, a more skills-based immigrant admissions system has been advocated by several immigration policy experts. A small move in that direction was the 1990 Immigration Act, which increased employment-based visas, but maintained family as the predominant class of admission. Most recently, the U.S. Commission on Immigration Reform as well as some members of Congress have recommended eliminating the fifth immigration preference that has for decades allowed the siblings of U.S. citizens to immigrate.

Spurring calls for reforming the U.S. legal immigration system have been three economic concerns: (1) a perceived increasing disparity between the educational attainments of immigrants and the native born;<sup>1</sup> (2) controlling for educational differences, an increasing disparity between the initial earnings of immigrants and the native born; and (3) a fear that immigrants may be taking jobs away from the native born, particularly lower-skilled natives. These economic concerns have been at the forefront of arguments for a system giving greater weight to the occupational skills of immigrants and less weight to their family ties. This perspective, however, ignores potential economic benefits of kinship ties, and is often based upon a misunderstanding of the reasons why immigrants, regardless of their education level, immigrate.

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1. Comparing immigrant and native-born educational attainment over time is complicated by a number of factors. Refer to Fix and Passel (1994) and Simon and Akbari (1995).

Using Immigration and Naturalization Service (INS) data on admissions criteria matched to 1990 Census data, we examine the effect of family admissions on immigrant education, self-employment, and earnings. Our results challenge the simple picture of high-skilled occupationally admitted immigrants and low-skilled family immigrants evaluated solely by their initial earnings in the United States. Over the course of immigrants' working lives, the story is more elaborate, and may be particularly complex for fifth-preference immigrants.

We find that family-based immigrants, in general, have low initial earnings but high earnings growth relative to immigrants admitted on the basis of occupational skills. The earnings growth of immigrants is particularly high in cohorts with relatively high fifth-preference admissions. Furthermore, fifth-preference admissions are positively associated with immigrant self-employment. We also find that immigrant education levels are positively associated with fifth-preference admissions and that the flows of occupation-based and fifth-preference immigrants are intimately connected, particularly for immigrants from regions of the world where economic opportunities are limited for highly educated individuals. Thus, eliminating the sibling category may inadvertently work against the goals associated with a system giving greater relative weight to occupational skills.

#### Legislative Background, Definitions, and Methodology

The Immigration Act of 1965 eliminated country-specific quotas and created a system of restricted and non-restricted immigration admission categories that greatly favored immigrants with family members already in the United States. Under this law, which was in effect until 1990, spouses, minor children, and parents of U.S. citizens were admitted without regard to numerical limitations. Of the numerically restricted visas, 80 percent were reserved for the adult

children and siblings of American citizens (as well as their spouses and children) and for the spouses and children of legal permanent resident aliens. Only 20 percent of the numerically restricted visas were allocated to applicants on the basis of their occupational skills. The occupation skills classification included two components: workers, skilled and unskilled, in occupations for which labor is deemed scarce in the United States (sixth preference), and professionals, scientists, and artists of exceptional ability (third preference).

The Immigration Act of 1990 made several changes in the admissions policy including increasing admissions on the basis of occupational skills. However, as discussed in Lindsay Lowell's commentary in this volume, these reforms did not alter the essentially family-based nature of U.S. immigration.

The most recently proposed reforms would constitute a major break in the 40-year-old admissions policy favoring family members. Although emphasizing the importance of the nuclear family, the Commission on Immigration Reform and a house subcommittee on immigration recommend eliminating immigration preferences to other close relatives, including the brothers, sisters, and adult children of U.S. citizens. Under the proposed system, those relatives could not obtain U.S. visas unless they qualified because of specific job skills.

To shed light on the effect of admission criteria on immigrant assimilation, we compare the education, propensity to be self-employed, and the earnings of immigrants admitted on the basis of occupational skills with those admitted on the basis of family.<sup>2</sup> We also examine the

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2. As discussed in the introductory chapter of this volume, we have also tried to learn the effect of admission criteria on immigrant economic performance by comparing immigrant education, age, host-country language proficiency, and earnings in Canada and the United States (Duleep and Regets, 1992). Other relevant studies on the issue of admission criteria beyond those in this volume include Boyd (1976), Goldfarb (1982), Levine, Hill, and Warren (1985), Fawcett, Carino, Park, and Gardner (1990), Papademetriou (1992), Sorensen, Bean, Ku, and Zimmermann (1992), Cobb-Clark (1993), Gordon (1994), Jasso and Rosenzweig (1995), and Duleep and Regets (1996). Refer to Lowell's commentary in

effect of one of the family-based admission categories recommended for elimination -- the fifth-preference category, which admits the siblings of U.S. citizens.

In the absence of appropriate individual data, we use Public Use Sample micro data on immigrant men from the 1990 census<sup>3</sup> matched to INS annual report data on admission criteria by year of admission and country of origin (Immigration and Naturalization Service, all years, 1975-1990). Thus, the effects of admission criteria on immigrant education, self-employment, and earnings in the analyses that follow are estimated by utilizing variations across groups and across cohorts within groups in the percentage of immigrants admitted under specified criteria.

To analyze the effect of admission on the basis of family versus admission on the basis of occupational skills, we use as our explanatory variable the percentage of immigrants admitted on the basis of occupational skills in each year-of-entry/country-of-origin cohort (PerOcc).<sup>4</sup> The occupational skills immigrants are those admitted under the third and sixth preferences. The

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this volume for an analytical review of some of these studies. The literature relevant to immigrant families and networks is much broader. See, for instance, Boyd (1988), Morrissey, Mitchell, and Rutherford (1991), and the discussion in Gallo and Bailey in Chapter 10 of this volume.

3.The 1990 census sample used in our analyses is a 6 percent sample created by combining and reweighting the Public Use 5% and 1% Public Use samples. Refer to Bureau of the Census (1992) for technical documentation on these files.

4.The variable, percent admitted on the basis of occupational skills, includes both the third and the sixth occupational preference categories. It is computed as the number of immigrants admitted on the basis of occupation skills, available by country of chargeability, divided by the total number of immigrants, available by country of birth. Thus the first step in our data creation was to match the INS country of birth and country of chargeability records. This limited the number of countries in our data set to those for which the INS reported both country of birth and country of chargeability data and introduced a source of measurement error since individuals' country of birth does not always coincide with country of chargeability. Another source of measurement error is that the INS annual records that we used in this study do not separately report data on admissions criteria for women and men, whereas our earnings analysis is limited to men. Future analysts could use the more detailed data in INS's raw data available on year-specific tapes.

complement of the variable PerOcc is the percent of immigrants in a given year-of-entry/country-of-origin cohort who gained admission through family ties or refugee status.<sup>5</sup> To analyze the effect of admission via the siblings' category, we use the percent of each cohort admitted through the fifth-preference category (PerFifth).

In explaining individual immigrant behavior, our two admission criteria variables could be viewed as proxies for whether individual immigrants entered under a particular admission criteria: they are the probability that an individual immigrant entered under a specific admission criteria. From this perspective, our admission criteria variables are subject to enormous measurement error. To the extent that this measurement error is random, it leads to an understatement of the true effects of admission criteria.<sup>6</sup>

From another perspective, information on the admission criteria composition of immigrant cohorts may be relevant to the behavior of individual immigrants. For instance, in one of the analyses that follow, we hypothesize that individual immigrants, regardless of their admission status, benefit from being part of a cohort with high extended family admissions. (This theme is also explored in the work of Gallo and Bailey in Chapter 10 of this volume.) From this perspective, our cohort-based admission measures are contextual variables and will still be of interest even if it becomes possible to analyze with individual data the effect of admission criteria on earnings and self-employment: future analysts should explore the effect on immigrant behavior of the admission criteria composition of individual immigrants' cohorts in addition to

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5. The inclusion of refugees in our grouping of non-occupation based immigrants is likely to bias our estimates of the economic performance of family-based immigrants downwards. In some analyses, we apply a partial remedy to this problem by excluding high refugee admissions countries.

6. Another problem with analyses in which group-level information is analyzed at the individual level is that the t-statistics of estimated coefficients may be upward biased. Refer to Moulton (1986) for a discussion of this problem and a possible estimation solution.



the effect of the individual immigrant's own admission status.

In all of the analyses that follow, the sample is limited to working-age men (25 to 65 years of age) who immigrated during 1975-1990 and who were at least 20 years old when they immigrated to the United States.<sup>7</sup>

### Education and Admission Criteria

Given that one of the occupational skills categories (the third preference) admits professionals, scientists, and artists of exceptional ability, we would expect that immigrants admitted on the basis of occupational skills would tend to be more highly educated than those admitted through family ties.<sup>8</sup>

To examine the association between admission criteria and the education levels of immigrants, we related the percent of immigrants admitted on the basis of occupational skills in the year-of-immigration/country-of-origin cohorts to the education levels of individual immigrants in those cohorts. In keeping with our expectations, we found positive correlations between immigrant education levels and the percent of immigrants admitted on the basis of occupational skills (Table 1). To our surprise, however, we also found more modest, but positive and significant correlations between immigrants' education levels and the percent of immigrants admitted as siblings (the fifth preference).<sup>9</sup> These results are confirmed when estimating the

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7. Thus we eliminate from the analysis immigrants who entered the United States as children. Kossoudji (1989) suggests that with the inclusion in the study population of immigrants who migrated as children, the assimilation effect may reflect pre-labor market assimilation as opposed to labor market assimilation by immigrants.

8. The other occupational skills category, the sixth preference, admits workers, skilled and unskilled, in occupations for which labor is deemed scarce in the United States.

9. All of these correlations are highly significant with a p-value of .0001 indicating that there is only a .0001 probability that the correlation is actually zero.

probability of having a college degree or higher or the probability of having a high school degree or higher using maximum likelihood logit estimation (Table 1). Taken literally, our results suggest that increasing admissions on the basis of occupational skills and increasing the admissions of siblings would increase immigrant education levels.

A possible explanation for these findings is that immigrants who gain admission on the basis of occupational skills are followed by their siblings, who gain admission via the fifth preference. If those who enter on the basis of occupational skills are highly educated, it is likely that their siblings are also highly educated.

We would expect that siblings following the footsteps of well-educated, occupationally admitted immigrants would be most prevalent among immigrants originating from countries in which there are limited employment opportunities for the highly educated relative to opportunities in the United States: a college-educated brother or sister of a French or German immigrant in the United States would be less likely to emigrate to the United States than the college-educated sibling of an Indian or Mexican immigrant because the employment opportunities for the highly educated in France or Germany are similar to those in the United States, whereas such opportunities are much more limited in India or Mexico.<sup>10</sup> According to this scenario we would expect a positive correlation between immigrant education levels and the admission of siblings among immigrants from Asia and Central and South America, but not among immigrants from Europe. Indeed, when we examine the education correlations and logits for Asia, Central and South America, and Europe separately, we find positive coefficients between education and percent admitted via the siblings' preference for Asia and Central and

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10. Limited employment opportunity for the highly educated in say India refers not only to unemployment or underemployment among the highly educated but also to the nature of employment.

South America and negative correlations for Europe (Table 1). The one exception to this pattern is the logit coefficient for high school or higher for Asia which is slightly negative.

The issue of whether the siblings of occupational admittees are one source of sibling admissions for Asian and Central and South American countries can be more directly addressed by estimating the correlation between percent admitted on the basis of occupational skills and the percent admitted as siblings. Across all immigrant cohorts, the correlation coefficient is .18; for Asian countries, it is .13; for Central and South American countries, it is .28; and for European countries, it is -.14.

Before leaving the analysis of admission criteria and education, it is important to note that the family admission category also includes parents, who would likely be less educated than their adult children, regardless of how their children gained admission. Accordingly, when we limit the analysis to men who are 25-44, we find a larger positive correlation for the siblings' measure than for the sample of men aged 25-64. (The coefficients for the occupational skills measure are almost the same as those estimated for the 25-64 year old sample.) For instance, the overall correlations for percent siblings admissions become .229 and .239 for college and beyond and high school and beyond, respectively.<sup>11</sup> The increase appears to be mostly due to increases in the siblings correlations for Asian immigrants.<sup>12</sup> These results are consistent with Fawcett, Carino, Park, and Gardner (1990) who find in their study of Korean and Filipino immigrants lower educational levels (measured as part of a human resources index) for parents than for other

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11. The overall correlations for percent admitted on the basis of occupation become .348 and .356 for college and beyond and high school and beyond, respectively, instead of .335 and .350, as shown in Table 1.

12. When we limit the sample to Asian immigrant men 25-44, the correlations with occupational admissions are barely changed whereas the correlations for percent admitted via the siblings category increases to .182 and .064 for college and beyond and high school and beyond, respectively.

family-admitted immigrants.

### Self-Employment and Admission Criteria

Immigrants who have skills that are similar to those of U.S. natives, such as English proficiency, or work experience and schooling similar to that received by U.S. natives, are generally believed to be more economically desirable than immigrants with skills that are dissimilar to those of U.S. natives. Yet, diversity may have economic benefits: immigrants with skills dissimilar from those of U.S. natives may benefit the U.S. economy and society by developing areas and businesses that would not otherwise be developed and by tempering immigrant/native employment competition. An important dimension of this is the propensity to be self-employed.

Case-study evidence suggests that extended families play a major role in the high self-employment rates of certain immigrant groups. According to the 1990 census, nearly 18 percent of Asian Indian immigrants in the United States who speak Gujarati are self-employed. In Chapter 6 of this volume, Madhulika Khandewal writes about the extended family and Gujaratis with the last name Patel:

Perhaps the most notable example is in the motel industry where immigrants from Gujarat, India, and within them a particular subcaste with the last name “Patel,” have made their presence felt. A chain of motels owned by these extended families may be found all over the country, even in its remotest parts.... New positions in their growing motel businesses may be filled from the pool of the extended family, comprised of brothers and brother-in-laws, sisters and sister-in-laws, cousins and uncles. Through such occupational networks, the family provides not only employment opportunities but also social and economic support in times of need.

About another group of Gujaratis, Khandewal writes:

Closeness of family and kin is apparent in yet another Indian concentration in New York City ethnic businesses--the jewelry trade. In a quiet but systematic process of over two decades, immigrants from families engaged in the jewel business traditionally in the western Indian state of Gujarat (and actually originating from a small town called Palanpur), have become the second largest ethnic group in the diamond district in New York City.... Applying their business acumen and drawing on family and kin resources, they have captured the American part of the worldwide trade in small cut diamonds.

Koreans are another high self-employment immigrant group. In Chapter 8 of this volume, Kim and Hurh document the important role that relatives play in aiding entrepreneurial ventures. Beyond the family, the existence of close-knit communities -- the development of which would be aided by the admission of immigrants on the basis of kinship -- have been hypothesized to promote immigrant entrepreneurial activities.<sup>13</sup> Extended immigrant families and close-knit immigrant communities also facilitate immigrant business formation by providing a supply of trusted employees and informal enforcement mechanisms that decrease the variance in employee performance (Duleep and Wunnava, Chapter 1, this volume; Jiobu, Chapter 5, this volume).

To examine the relationship between admission criteria and self-employment, we measured the correlations between the percent of each country-of-origin/year-of-entry cohort that was self-employed and, respectively, the percent admitted on the basis of occupational skills and the percent admitted via the siblings' preference category. As shown in Table 2, there is no statistically significant correlation, for any of the regions of origin, between whether an immigrant is self-employed and the percent of his year-of-immigration/country-of-origin cohort

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13. For instance, refer to Bonacich and Modell (1980), Kim, Hurh, and Fernandez (1989), Light (1972), and Waldinger (1989).

that was admitted via the occupational skills criteria.<sup>14</sup> On the other hand, for all regions, there is a positive and highly statistically significant relationship between the propensity of individual immigrants to be self-employed and the percent of their cohort that gained admission through the siblings' category.

To further probe the relationship between admission criteria and immigrant self-employment, we estimated for each region of origin the effect of the occupational skills and siblings (fifth preference) admission criteria on the propensity to be self-employed controlling for human capital variables. The model we estimated is:

$P(\text{SelfEmp})_i =$

$$\alpha + X'\beta_1 + \beta_2 \text{YSM} + \gamma_1 \text{PerOcc}_{jk} + \gamma_2 \text{PerFifth}_{jk} + \theta_1 \text{PerOcc}_{jk} \cdot \text{YSM} + \theta_2 \text{PerFifth}_{jk} \cdot \text{YSM} + \varepsilon_i$$

where  $P(\text{SelfEmp})_i$  is the probability that immigrant  $i$  is self-employed,  $\text{PerOcc}_{jk}$  is the percent of immigrants in group  $j$  and cohort  $k$  who were admitted through the occupational skills preference categories,  $\text{PerFifth}_{jk}$  is the percent of immigrants in group  $j$  and cohort  $k$  who were admitted through the fifth-preference category,  $\text{YSM}$  is years since migration, and the vector  $X$  includes age, age squared, and seven education categories. (An eighth education category, 0-8 years, serves as the reference category.)

The estimated coefficients from the logit model are shown in Table 3.<sup>15</sup> Although our primary interest in estimating a multivariate self-employment model was to measure the effects

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14. The p values in parentheses in the top part of Table 2 indicate statistical significance. Thus, a p value of .0001 on the siblings correlation coefficient of .1335 for Asians indicates that the probability of the true correlation being zero is less than .0001; a p value of .9132, as shown on the occupational-skills correlation coefficient of .005 for Asians, indicates that there is at least a 90% probability of measuring a correlation of that magnitude given the absence of a correlation between occupational-skills admissions and self-employment in the population.

15. The logit model was estimated by maximum likelihood estimation.

on self-employment of admission criteria, the coefficients on the human capital variables are of interest as well.

Had we simply entered education as a linear variable into the analysis, we would have estimated a positive coefficient indicating that the propensity to be self-employed increases with years of schooling.<sup>16</sup> Our more detailed treatment of educational achievement reveals a highly nonlinear relationship, varying with region of origin, between the schooling of immigrants and their propensity to be self-employed.

For Asian immigrants, the propensity to be self-employed increases until 12 years of schooling and then, with the exception of professional degrees, it decreases: controlling for age, those with 9-11 years of schooling have about the same probability of being self-employed as those with some college education, and those with less than 9 years of schooling are as likely to be entrepreneurs as those with a Master's degree. Asian immigrants with a Ph.D. are much less likely to be self-employed than are all other education categories, including the reference group of immigrants with only 0-8 years of schooling. The European pattern is similar to that for Asians except that the initial peak in the propensity to be self-employed occurs for immigrants with some college. For both Asians and Europeans, professional degrees are the exception to the low self-employment among the highly educated and likely reflects the inclusion of medical doctors and lawyers in this category. In contrast to the Asian and European patterns, the propensity to be self-employed for Central and South Americans steadily increases with education before precipitously dropping for Ph.D.'s.

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16. In the 1990 Census, respondents were not asked about their years of education, but the grade or degree level they had completed. While this is problematic for the traditional estimation of rates of return to a year of education in human capital earnings functions, it is a useful breakdown in analyses such as this.

Across all groups, the estimated coefficients on years since migration and age are consistent with expectations based on human capital theory. We would expect a positive relationship between years since migration and the likelihood of being self-employed since newly arrived immigrants would lack both the capital and information to start a business.<sup>17</sup> Controlling for years since migration, the coefficient on age is measuring the effect on self-employment of age at immigration. Not surprisingly, given the capital requirements of starting a business, the propensity to be self-employed increases with age for all groups. However, we would expect a decrease with age of immigration in the rate at which the propensity to be self-employed increases since the time to reap the benefits of an entrepreneurial venture would decrease the older the age of arrival. This is consistent with the estimated negative coefficient on the age-squared variable in Table 3.

Once we control for education, age, and years since migration, we find that for European immigrants the percent of immigrants admitted as siblings is negatively associated and the percent admitted on the basis of occupational skills positively associated with the propensity to be self-employed, contrary to our expectations. However, for the two largest immigrant groups, Asians and Hispanics, the percent admitted on the basis of occupational skills has either a negative effect on the propensity to be self-employed, or a statistically insignificant effect, and the siblings' effect is positive and large. In fact, the estimated effect on the propensity to be self-employed of the siblings' admission criterion exceeds that of any other variable in the analysis.

Our findings concur with those of Fawcett, Carino, Park and Gardner from their

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17. The work of Kim and Hurh in Chapter 8 of this volume suggests that immigrant networks may result in a fairly short start-up time. We should also note that had we included a squared years-since-migration term in our estimating equation, we would expect a negative sign for the same reasons as those discussed below with respect to the age-squared explanatory variable.



longitudinal survey of Korean and Filipino immigrants. In summarizing their results they write:

Most striking... is the very high level of Economic Contribution scores for Korean family preference immigrants in comparison to occupational preference immigrants. The component scores ... suggest that this difference is related to the greater propensity of Korean immigrants to go into business for themselves. (1990, pp. 13-14)

### Earnings Profiles and Admission Criteria

There has been a substantial decline in the entry earnings of immigrants over time, particularly after 1970, which largely persists adjusting for differences in education and age between recent and previous immigrant cohorts (Borjas, 1992). This decline in the entry earnings of immigrants has led researchers to question whether the emphasis on family reunification in the American immigration system has contributed to a decline in the productivity of immigrants entering the U.S. labor market. Of course, the importance of the decline in entry earnings depends upon whether immigrants starting at low earnings experience slow or rapid earnings growth after migrating to the United States.

In a series of papers, using a diversity of methodologies, Duleep and Regets (1992, 1994a, 1994b, 1996) have suggested that factors that affect the entry earnings of immigrants likely affect their earnings growth.<sup>18</sup> Most recently, using 1970-1990 census data, Duleep and Regets (1995b) show that decreases (increases) in the entry earnings of immigrant cohorts have been accompanied by increases (decreases) in earnings growth. To the extent that kinship admissions have lowered entry earnings, these results suggest that kinship admission is also associated with high earnings growth.

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18. A synopsis of these papers can be found in Duleep and Regets (1995a).

Theoretically, we would expect that immigrants admitted on the basis of family would initially earn substantially less than those admitted on the basis of occupational skills; the latter, by the very nature of their admission, have highly transferable skills to the United States, as evidenced by an employer's willingness to participate in a sometimes cumbersome labor certification process. However, we would also expect family-based immigrants to experience higher earnings growth. Since occupation-based immigrants already have skills relevant to specific employment opportunities, the return to investments in U.S. specific skills will be less for these immigrants than would be the case for family-based immigrants.

There are other reasons why we would expect the earnings profiles of family-based immigrants to be characterized by low initial earnings but high earnings growth. Duleep and Sanders (1993) find that the labor force participation of immigrant wives across groups is positively related to measures of the extent to which immigrant men invest in U.S.-specific skills.<sup>19</sup> This suggests a family-investment strategy in which family members support the investment of other family members in order to maximize family income over time. A similar phenomenon may occur in extended families. Indeed, the chapters by Khandewal, Jiobu, and Kim and Hurh in this volume give evidence of extended families and close-knit immigrant communities fostered by kinship ties supporting immigrant investment activities. Portes and Bach (1985), Waldinger (1986), Bailey (1987), and Gallo and Bailey in Chapter 10 of this volume have documented an immigrant sector in various industries characterized by mutually beneficial arrangements between recent immigrants and longer term immigrants in which recent immigrants working as unskilled laborers at low wages (or even no wages) in immigrant-run

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19. Also refer to Beach and Worswick (1993), Ngo (1994), Baker and Benjamin (1994), and Duleep, Regets, and Sanders (1996).

businesses are provided training and other forms of support eventually leading to more skilled positions or self-employment. The development of kinship-based immigrant communities in the United States should also increase the permanence of immigrants; a longer time horizon promotes long-term investment behavior characterized by low initial earnings and high earnings growth.<sup>20</sup> All of these factors -- skill transferability, the extent of social capital associated with denser family and community ties, and permanence -- would be expected to contribute to greater investment in U.S.-specific skills and capital by family-admitted immigrants and to result in low initial earnings but high earnings growth.<sup>21</sup>

As with our analyses of immigrant education and self-employment, we test our hypotheses regarding the effect of admission criteria on immigrant earnings profiles by utilizing variations in the percentage of immigrants admitted under specified criteria across country-of-origin/year-of-entry cohorts. Our estimating equation is:

$$y_i = \alpha + \gamma_1 \text{PerOcc}_{jk} + X'\beta_1 + (\beta_2 + \Theta \text{PerOcc}_{jk}) \text{YSM} + \varepsilon_i$$

where  $y_i$  denotes the natural logarithm of the earnings of immigrant  $i$ ;  $X$  is a vector of variables measuring age, age squared, and education (seven categories as shown in Table 3), and  $\beta_1$  the vector of corresponding coefficients;  $\text{YSM}$  measures years since migration; and  $\text{PerOcc}_{jk}$  is the percent of immigrants in group  $j$  and cohort  $k$  who were admitted on the basis of occupational skills. According to our theoretical exposition, we would expect  $\gamma$  to be positive, reflecting the higher transferability of skills of immigrants admitted under the occupational skills provision,

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20. Further discussion concerning this point can be found in Duleep (1988, chapter 8), Duleep (1994), Ahmed and Robinson (1994), and Duleep and Regets (1996).

21. Refer to Duleep and Regets (1996) for a more comprehensive theoretical discussion including how the theoretical expectation related to the level of U.S.-specific skills of family versus occupation-based immigrants relates to Chiswick's skills transferability model (Chiswick, 1978, 1979).

and for  $\Theta$  to be negative, reflecting the lower earnings growth among immigrants admitted on the basis of occupational skills relative to immigrants admitted on the basis of kinship. (A negative coefficient on the YSM x PerOcc variable implies that family admissions are positively associated with immigrant earnings growth relative to occupational skills admissions.)

The estimated coefficients on percent admitted on the basis of occupational skills and on the interaction term between this variable and years since migration (YSM) are shown in the first column of Table 4. As hypothesized, these coefficients indicate that as the percent admitted on the basis of kinship increases, the initial earnings of immigrants fall (the estimated coefficient is positive on Percent Admitted on Basis of Occupational Skills). But their expected earnings growth increases (the estimated coefficient is negative on Years Since Migration  $\times$  Percent Admitted on Basis of Occupational Skills).

A potential problem with these estimates is that the census data to which the INS cohort information is matched include not only legal immigrants, but illegal immigrants and refugees as well (Fix and Passel, 1994; Warren and Passel, 1987). If the country-of-origin/year-of-entry cohorts in which family admissions are relatively high or low are also the cohorts in which illegal and refugee admissions are relatively high or low, then our estimated earnings effects of admission criteria could be biased and their usefulness for informing the debate about *legal* immigration reform circumscribed.

Theoretically, we would expect the inclusion of illegals (or of persons who were formerly illegal and became legal) to dampen the admission criteria effect on earnings profiles. Compared to family-admitted immigrants, illegal aliens would (at least initially) be more likely to view themselves as temporary workers in the United States. As such, they would be less likely than family-admitted immigrants to undertake U.S.-specific investments that would initially lower

their earnings.<sup>22</sup> In accordance with these expectations we find that when we exclude source countries that are the largest contributors of illegal aliens the admission criteria earnings effects that we found earlier increase: as shown in the second column of Table 4, the intercept effect of percent admitted on the basis of occupation increases and the effect of occupational admissions on earnings growth becomes more negative, indicating a higher earnings growth for cohorts with relatively high family admissions.<sup>23</sup>

A problem with deleting countries that supply most of the illegal alien flow is that some of the excluded countries, such as Mexico, are big contributors of legal immigration as well. An alternative approach is to include all countries in our analysis, but control for country-specific effects (which would include the prevalence of refugee and illegal entries) that may be correlated with admission criteria. To do this, we included a categorical variable for each country of origin; we also interacted each country-of-origin categorical variable with the set of explanatory variables  $X$ . The estimating equation became:

$$y_i = \alpha + \gamma_1 \text{PerOcc}_{jk} + \gamma_2 G_j + G_j X' \beta_1 + (\beta_2 + \Theta \text{PerOcc}_{jk}) YSM + \varepsilon_i$$

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22. The effect of refugees is *ex ante* ambiguous. To the extent that kinship ties aid earnings growth, we would expect higher earnings growth rates among non-occupation-skills immigrants excluding refugees from the analysis (Gallo and Bailey, Chapter 10, this volume). On the other hand, Chiswick (1979) hypothesized that refugees will, because of the abruptness and unplanned nature of their migration, have less transferable skills than immigrants who have migrated for economic reasons. A lower level of skill transferability would lead to lower entry earnings and higher earnings growth for refugees than for kinship-admitted immigrants. We would then expect that excluding refugees from the non-occupational-skills category, would result in higher entry earnings (relative to the occupational-skills immigrants) and possibly lower earnings growth. In any case, the effect of illegals would be expected to dominate because they are more numerous than refugees.

23. This estimation also excludes refugees. However, since the number of illegals or formerly illegal aliens exceeds the number admitted as refugees, the “illegal effect” likely dominates.

where  $G_j$  is a categorical variable denoting group  $j$ . This approach permits estimating separate returns to education and experience for each immigrant group, but uses the intergroup, intercohort variations in admissions criteria to estimate  $\gamma$  and  $\theta$ .

The results of this estimation are shown in the third column of Table 4. The same patterns we found previously persist — admission on the basis of kinship (occupational skills) is associated with lower (higher) initial earnings but higher (lower) earnings growth. Comparing the first and third columns we see that controlling for country-specific effects reduces the estimated intercept effect on immigrant earnings of percent admitted on the basis of occupation but increases its effect on earnings growth (although not to the extent that is shown in the second column).

The estimated coefficients shown in Table 4 can be used to estimate the amount of time it would take family-based immigrants to catch up with occupation-based immigrants. These estimates should be treated with caution however. Since estimated catch-up times depend on both the estimated intercept effect ( $\gamma$ ) and the estimated slope effect ( $\theta$ ), slight changes in either can dramatically increase or decrease the catch-up time. With this caveat in mind, the estimates from the regression that includes country-specific effects suggests that family-based immigrants will catch up to employment-based immigrants in 20 years.<sup>24</sup>

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24. This suggests a slower catch up than our analyses based on 1980 census data matched to 1965-1980 INS data (Duleep and Regets, 1992, 1996). As noted, small differences in the estimated effects can have big effects on the estimated catch-up time. Thus the differences in estimated catch-up times may simply reflect measurement error which, given the lack of individual data, is large in all of these analyses. Another potentially relevant factor is that there is less within-country variation in the admissions compositions in the 1975-1990 period than in the 1965-1980 period (refer to Duleep and Regets, 1996). We also did not include the following explanatory variables in the 1975-1990 analyses that had been included in the 1965-1980 analyses: education x experience, marital status, metropolitan residence, and region. Our control for education is, however, more precise in the 1975-1990 analyses. The change in the estimated effects may also reflect across-cohort changes not captured by the human capital and

### Education and the Earnings Effect of Admission Criteria

The process of economic assimilation is one in which immigrants combine the skills they have brought with them with the skills they acquire in their new homeland. In other words, there is a complementary relationship between the skills an immigrant brings to the United States and his acquisition of U.S. specific skills. For instance, for an immigrant lacking English proficiency, improving his English enables him to bring to the labor market those skills he acquired before migrating.

We would expect that the extent of this complementarity would depend on the immigrant's level of education. For an unskilled laborer, there may be only a modest negative effect on his initial earnings of not speaking English well, since he could find work that did not require English proficiency. In return for learning to speak English well, an immigrant with little education may experience only a modest gain in earnings. For a highly educated immigrant, the initial effect on his initial earnings of not speaking and writing English well would be large; he may not even be able to find employment in his field of training. The return to learning English would also be large since this would allow him to market his former considerable training.

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admission category variables; a promising line of research in this regard would be to include admission criteria information in a cohort-based analysis of immigrant entry earnings and earnings growth as in Duleep and Regets (1994a, 1995b). Beyond methodological and data concerns, several substantive changes may have affected our estimated results as well. Our 1990 results include Western Hemisphere countries, whereas our 1980 analyses did not. (Admission criteria information for Canada, Central America, and South America is not available for years prior to 1976.) Within the occupational admissions category, the distribution of third versus sixth preference admissions is quite different for Central and South American countries than it is for European countries; future analysts may want to disaggregate the occupational preference categories. The composition of family admissions may have changed in recent years as well. For instance, if high family admission cohorts include more parents than was the case earlier, this would reduce both entry earnings and earnings growth. These and other concerns are all topics for future research.

As previously discussed, immigrants admitted via the occupation preferences have, by the very nature of their admission, highly transferable skills. The country-of-origin skills of family-admitted immigrants would be far less transferable. Given our theoretical expectations regarding level of education and economic assimilation, we would expect the effect of admission criteria on entry earnings and earnings growth to increase with an immigrant's level of education: at low levels of education, we would expect a relatively small negative (positive) effect on initial earnings of family (occupation) admission and a relatively small positive (negative) effect of family (occupation) admissions on earnings growth; at high education levels, we would expect family (occupation) admission to be associated with a large negative (positive) effect on initial earnings and a large positive (negative) effect on earnings growth.<sup>25</sup>

To explore the potential interactive effect on earnings profiles of education and admission criteria, we separately estimated equation 1 by level of education. The results are shown in Table 5.

In accordance with our theoretical expectations, both the initial effect of admission criteria and its effect on earnings growth increases with level of education. For those with less than a high school diploma, the estimated coefficients suggest that increasing occupational skills admissions by one percent increases initial earnings by 2.68 percent and decreases annual earnings growth (relative to non-occupation admissions) by 2.98 percent. For those with a bachelor's degree or more, a one-percent increase in occupational skills admission is associated with a 4.74 percent increase in initial earnings and a 25.5 percent decrease in annual earnings growth.

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25. Also refer to the discussion on the interaction between admission criteria and immigrant education level by Gallo and Bailey in this volume's Chapter 10.



More generally consistent with the complementarity hypothesis discussed above is the relationship between the estimated effect of years since migration and level of education: the earnings of immigrants with at least a bachelor's degree are estimated to increase by 8 percent a year; the earnings of immigrants with less than a high school diploma are estimated to increase by 4.8 percent a year.

### Earnings Profiles and the Fifth Preference

How immigrants admitted under the sibling category fare is of particular concern to the current admissions policy debate since the fifth preference category is slated for removal in recent legislative proposals.

Theoretically, the presence of extended families should aid the initial adjustment of immigrants lacking U.S.-specific skills. Extended families should also facilitate investment in U.S.-specific human capital. We would therefore expect that, controlling for general skills (i.e. education), groups with relatively high fifth-preference admissions would have somewhat higher initial earnings than other family-based immigrants, and would also have higher earnings growth than immigrants in cohorts with relatively low sibling admissions. Both factors would contribute to a faster catch up by immigrants in cohorts with high sibling admissions to the earnings of occupation-based immigrants than would be true for family-based immigrants in cohorts with low sibling admissions.

To test these hypotheses, we estimated the following equation:

$$y_i = \alpha + \gamma_1 \text{PerFifth}_{jk} + X'\beta_1 + (\beta_2 + \theta \text{PerFifth}_{jk}) \text{YSM} + \varepsilon_i$$

where  $\text{PerFifth}_{jk}$  is the percent of immigrants in group  $j$  and cohort  $k$  who were admitted through the fifth-preference category. As before,  $\text{YSM}$  denotes years since migration and the vector  $X$

includes seven education categories, age, and age squared. The estimated coefficients from this model are shown in the first column of Table 6.

The estimated coefficient on Percent Admitted via the Fifth Preference suggests that a 10 percentage point increase in fifth-preference admissions would lower initial earnings by 10.5 percent; the estimated coefficient on the interactive term (PerFifth x YSM) suggests that the same 10 percentage-point increase would increase the annual earnings of immigrants by 1.3 percent per year. In the analogous estimation in column 1 of Table 4, where we examined the effect of family versus occupational-skills based admissions, increasing admission on the basis of occupational skills by 10 percentage points would increase initial earnings by 34.2 percent and decrease earnings by 1.08 percent per year. Thus, compared to other admissions in general, sibling admissions are associated with a lesser negative effect on initial earnings and a greater positive effect on earnings growth. The combined effects imply that it takes about 8 years for fifth-preference immigrants to catch up with other immigrants.<sup>26</sup>

However, this catch-up time is relative to all other immigrants, including other family-admitted immigrants. To control for the effect on earnings profiles of family versus occupation-based admissions, we included in the above estimation the percent admitted on the basis of occupational skills, alone and interacted with years since migration. As shown in the second column of Table 6, doing this decreases both the negative effect on initial earnings and the positive effect on earnings growth of fifth-preference admissions culminating in a somewhat longer catch-up time of 8.90 years.

In our analysis of occupation-based versus family-based admissions we were concerned

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26. The catch-up time is computed simply as the estimated coefficient on Percent Fifth divided by the estimated coefficient on Percent Fifth x YSM, or  $1.050649 / .132240 = 7.9450$ .

that our estimated admission criteria effects might reflect the effect of coincidental unobserved country-specific effects. The same concern applies here as well. That is, countries with high siblings' admissions may have other factors associated with them that lead to high earnings growth.<sup>27</sup> In the estimation shown in third column of Table 6, we control for country-specific effects as we did in the estimation shown in the third column of Table 4. The inclusion of the country-specific controls further decreases the effect of siblings' admissions on both initial earnings and earnings growth, and increases the catch-up time to 12.79 years. The associated catch-up time for family admitted immigrants in general in this estimation is 19.12 years.

### Conclusion

The interest in reforming the U.S. immigration system from a primarily family-based system to one based more on the specific occupational skills of individuals stems from concerns about the "quality" of immigrants -- do they productively contribute to the economy? -- and their impact on the jobs and wages of the native born. In the wake of a movement to diminish the family-oriented nature of U.S. immigration policy, we have examined the effect of family versus occupational skills admissions on immigrant education, self-employment, and earnings.

We find that family admissions are associated with low entry earnings, relative to those admitted on the basis of occupational skills, but high earnings growth. This result confirms previous research with the 1980 census matched to 1965-1980 INS data (Duleep and Regets,

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27. Note, however, that if the country-of-origin composition always had the same relationship to the admission criteria, then, from the perspective of wanting to know the effect of a change in admission criteria you would not want to control for country-of-origin effects.

1992, 1996). It is also consistent with work by Jasso and Rosenzweig (1995) in which they find that the initial gap between the occupational attainment of immigrants entering as spouses of U.S. citizens and that of occupational skills immigrants (those entering under the third and sixth-preferences) lessens considerably with time in the United States. More generally, this work adds to an accumulation of evidence that the entry earnings of immigrants are a poor predictor of immigrant economic success (Chiswick, 1978, 1979; Duleep and Regets, 1994a, 1994b, 1995a, 1995b; Lalonde and Topel, 1991). This becomes more true the higher the level of education of the immigrant.

Our results further suggest that the proposal to eliminate the sibling admission category (fifth preference) may be counterproductive. Case-study evidence finds that extended immigrant families and close-knit immigrant communities ease the economic assimilation of new immigrants and promote investment in U.S. human capital as well as the formation of businesses. We find evidence of this on two fronts: immigrant self-employment is positively associated with fifth-preference admissions, and immigrants in cohorts with relatively high fifth-preference admissions appear to have higher initial earnings than family-admitted immigrants in general, and higher earnings growth than immigrants in cohorts with lower fifth-preference admissions.

For Asian and Hispanic countries, the admission of siblings is positively correlated with education and positively correlated with occupational admissions. We believe that driving this result are limited employment opportunities for the highly educated in countries that are less economically developed than the United States. By excluding siblings, the current proposal may inadvertently decrease immigration of highly educated individuals from economically underdeveloped countries. If one of the goals of immigration reform is to increase the proportion of highly educated immigrants, rather than to decrease the immigration flow from predominantly

Asian and Hispanic sources, then a more effective approach might be to give points for both kinship ties and educational level, or to make the kinship entries conditional on certain levels of education instead of uniformly preventing admission of the siblings of U.S. citizens. Such alternatives would allow a balance between skill levels and family ties---both of which appear to have economic benefits.<sup>28</sup>

Our results broadly affirm the warning of Fawcett, Carino, Park, and Gardner (1990, p.1) that “Immigration policies have unintended, as well as intended consequences.” From their longitudinal survey of Korean and Filipino immigrants, Fawcett et al. (p. 23) find:

Within each immigrant stream, the occupational preference visa categories were ... selective on human resources and economic contributions, as intended by U.S. immigration policy. Relatively high levels of human resources and economic contributions were also found in selected *family* visa categories for these two cohorts of immigrants, reflecting an unintended effect of policy.

Our findings also complement those of Morrissey, Mitchell, and Rutherford (1991, p.79) who conclude from their survey of various immigrant groups in Australia that “family and informal networks provide the most important and frequently utilized services for most immigrants.”

Typically, admission on the basis of kinship has been justified on humanitarian grounds. Our findings pose questions, solely on economic grounds, to those advocating that the United States adopt a less family-oriented immigration policy.

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28. Also see Chapter 10 by Gallo and Bailey on this point.

## References

- Ahmed, Bashir and J. Gregory Robinson, "Estimates of the Foreign-Born Population: 1980-1990," Population Division, Technical Working Paper no. 9, Washington, DC: Bureau of the Census, December 1994.
- Bailey, Thomas R., *Immigrant and Native Workers: Contrasts and Competition*, Conservation of Human Resources, Boulder and London: Westview Press, 1987.
- Baker, Michael and Dwayne Benjamin, "The Role of the Family in Immigrants' Labor Market Activity: An Evaluation of Alternative Explanations," paper presented at the annual meeting of the Canadian Economics Association, May 1994.
- Beach, Charles M. and Christopher Worswick, "Is There a Double-Negative Effect on the Earnings of Immigrant Women?" *Canadian Public Policy*, vol. 19, no. 1, 1993, pp. 36-53.
- Bonacich, Edna and John Modell, *The Economic Basis of Ethnic Solidarity: Small Business in the Japanese-American Community*, Berkeley, Calif: Univ. of California Press, 1980
- Borjas, George, "National Origin and the Skills of Immigrants," in George J. Borjas and Richard B. Freeman, editors, *Immigration and the Work Force*, National Bureau of Economic Research, Chicago: The University of Chicago Press, 1992, pp. 17-47.
- Boyd, Monica, "Immigration Policies and Trends: A Comparison of Canada and the United States," *Demography*, vol. 13, February 1976, pp. 82-102.
- , "Family and Personal Networks in International Migration," *International Migration Review*, vol. 23, no. 88, 1988, pp. 638-70.
- Bureau of the Census, *Census of Population and Housing 1990: Public Used Microdata Sample, U.S. Technical Documentation*, Washington, DC: U.S. Bureau of the Census, 1992.
- Chiswick, Barry R., "The Effect of Americanization on the Earnings of Foreign-Born Men," *Journal of Political Economy*, October 1978, pp. 897-922.
- , "The Economic Progress of Immigrants: Some Apparently Universal Patterns," in William Fellner, editor, Washington, D.C.: American Enterprise Institute, 1979, pp. 359-399.
- Cobb-Clark, Deborah A., "Immigrant Selectivity and Wages: The Evidence for Women," *American Economic Review*, September 1993, pp. 986-993.

Duleep, Harriet Orcutt, *The Economic Status of Americans of Asian Descent*, U. S. Commission on Civil Rights, Washington, D.C.: Government Printing Office, 1988.

---, "Social Security and the Emigration of Immigrants," *Social Security Bulletin*, vol. 57, 1994, pp. 37-52.

Duleep, Harriet Orcutt and Mark C. Regets, "Some Evidence on the Effect of Admission Criteria on Immigrant Assimilation," in Barry R. Chiswick, editor, *Immigration, Language and Ethnic Issues: Canada and the United States*, Washington, DC: American Enterprise Institute, 1992, pp. 410-439.

-- "The Elusive Concept of Immigrant Quality," (first presented at the 1992 Allied Social Science Association annual meetings). Program for Research on Immigration Policy, Discussion Paper PRIP-UI-28, Washington, DC: The Urban Institute, 1994a.

--, "Country of Origin and Immigrant Earnings," Program for Research on Immigration Policy, Discussion Paper PRIP-UI-31, Washington, DC: The Urban Institute, 1994b.

--, "Earnings Convergence: Does it Matter Where Immigrants Come From or Why?," *Canadian Journal of Economics*, 1995a, forthcoming.

--, "Reassessing Immigrant Earnings Growth: Evidence from 1970-1990," Program for Research on Immigration Policy, Working Paper, Washington, DC: The Urban Institute, 1995b.

--, "Admission Criteria and Immigrant Earnings Profiles," (Program for Research on Immigration Policy, Discussion Paper PRIP-UI-30, Washington, DC: The Urban Institute, 1994), *International Migration Review*, 1996, forthcoming.

Duleep, Harriet Orcutt and Seth Sanders, "The Decision to Work by Married Immigrant Women: Evidence from Asian Women," *Industrial and Labor Relations Review*, July, 1993, pp. 677-90.

Duleep, Harriet Orcutt, Mark C. Regets, and Seth Sanders, *Skills, Investment, and Family Ties: A Study of Asian Immigrants*, Kalamazoo, MI: Upjohn Institute of Employment Research, 1996, forthcoming.

Fawcett, James T., Benjamin V. Carino, Insook Han Park, and Robert W. Gardner, "Selectivity and Diversity: The Effects of U.S. Immigration Policy on Immigrant Characteristics," paper presented at the Annual Meeting of the Population Association of America, 1990.

Fix, Michael and Jeffrey S. Passel, *Immigration and Immigrants: Setting the Record Straight*, Washington, DC: The Urban Institute, 1994.

Goldfarb, Robert S., "Occupational Preferences in the U.S. Immigration Law: An Economic Analysis," in Barry R. Chiswick, editor, *The Gateway: U.S. Immigration Issues and Policies*, Washington, DC: American Enterprise Institute, 1982.

Gordon, Linda W., "Highlights of the Triennial Report on Immigration: A Background for Policy Formation," paper presented at the annual meeting of the Population Association of America, 1994.

Immigration and Naturalization Service, *Statistical Yearbook of the Immigration and Naturalization Service*, Washington, DC: U.S. Government Printing Office, each year 1975-1990.

Jasso, Guillermina and Mark R. Rosenzweig, "Do Immigrants Screened for Skills Do Better than Family-Reunification Immigrants?," *International Migration Review*, Spring 1995, pp. 85-111.

Kim, Kwang Chung, Won Moo Hurh, and Marilyn Fernandez, "Intra-Group Differences in Business Participation: Three Asian Immigrant Groups," *International Migration Review*, Spring 1989, pp. 73-95.

Kossoudji, Sherrie A., "Immigrant Worker Assimilation: Is It a Labor Market Phenomenon?" *Journal of Human Resources*, Summer 1989, pp. 494-527

Lalonde, Robert J. and Robert H. Topel, "Immigrants in the American Labor Market: Quality, Assimilation, and Distributional Effects," *The American Economic Review, Papers and Proceedings*, May 1991, pp. 297-302

Levine, Daniel B., Kenneth Hill, and Robert Warren, editors, *Immigration Statistics: A Story of Neglect*, Washington, DC: National Academy Press, 1985.

Light, Ivan, *Ethnic Enterprises in America: Business and Welfare Among Chinese, Japanese, and Blacks*, Berkeley, Calif: Univ. of California Press, 1972.

Morrissey, Michael, Colleen Mitchell, and Anne Rutherford, *The Family in the Settlement Process*, Bureau of Immigration Research, Canberra: Australian Government Publishing Service, 1991.

Moulton, Brent, "Random Group Effects and the Precision of Regression Estimates," *Journal of*



*Econometrics*, vol. 32, August, 1986, pp. 385-97.

Ngo, Hang-Yue, "The Economic Role of Immigrant Wives in Hong Kong," *International Migration*, vol. 32, no. 3, 1994, pp. 403-23.

Papademetriou, Demetrios G. "International Migration in North America: Issues, Policies, and Implications," U.S. Department of Labor, Immigration Policy and Research Working Paper No. 14, 1992.

Portes, Alejandro and Robert L. Bach, *Latin Journey: Cuban and Mexican Immigrants in the United States*, Berkeley: University of California Press, 1985.

Simon, Julian L. and Ather Akbari, "Educational Trends of Immigrants into the United States," paper presented at the annual meeting of the Population Association of America, 1995.

Sorensen, Elaine, Frank D. Bean, Leighton Ku, and Wendy Zimmermann, *Immigrant Categories and the U.S. Job Market*, Washington, DC: The Urban Institute Press, 1992.

Waldinger, Roger, *Through the Eye of the Needle: Immigrant Enterprise in New York's Garment Trades*, New York, N.Y.: New York University Press, 1986.

---, "Structural Opportunity or Ethnic Advantage? Immigrant Business Development in New York," *International Migration Review*, Spring 1989, pp. 48-72.

Warren, Robert, and Jeffrey S. Passel, "A Count of the Uncountable: Estimates of Undocumented Aliens Counted in the 1980 United States Census." *Demography*, 24, 1987, pp. 375-394.

Table 1: Admission Criteria and Education Levels

**Correlation Coefficients**  
(All p values are .0001 or less)

	ALL		ASIA		C & S AMERICA		EUROPE	
	Bachelors	High school	Bachelors	High school	Bachelors	High school	Bachelors	High school
Percent occupational skills admissions	.33470	.35019	.24676	.17893	.11678	.17931	.15440	.19115
Percent siblings admissions	.18906	.19688	.13754	.03391	.10377	.25618	-.21840	-.34691

**Logit Coefficients**  
(asymptotic t-test statistics in parentheses)  
(controlling for age, age squared, and years since migration)

Percent occupational skills admissions	7.8798 (101.2)	11.0251 (99.0)	6.0209 (44.2)	7.9372 (33.0)	5.7981 (19.3)	4.5145 (21.4)	2.5306 (18.4)	4.1693 (18.6)
Percent siblings admissions	3.0971 (54.5)	2.4052 (38.9)	1.9867 (24.5)	-.3210 (-2.9)	3.9090 (19.4)	8.9321 (56.0)	-4.8826 (-27.0)	-6.0046 (-39.3)

Table 2: Admission Criteria and the Propensity to be Self-Employed: Correlation Coefficients (p values in parentheses)			
Source Region	Asia	Central & S. America	Europe
Admission Criteria			
Percent admitted on the basis of occupational skills	.0050 (.9132)	-.0018 (.6538)	.0006 (.9337)
Percent admitted as siblings of U.S. citizens	.1335* (.0001)	.0565* (.0001)	.0453* (.0001)

\*A p value of .0001 indicates that had the true correlation between the specific admission criteria and the propensity to be self-employed been zero, there would have only been a .0001 probability of obtaining correlation coefficients of this magnitude.

Table 3: Logistic Model of Immigrant Self-Employment  
(asymptotic t-test statistics are in parentheses)

Source Region	Asia	Central & S. America	Europe
Explanatory Variables			
Intercept	-7.8395 (25.17)*	-6.4335 (21.46)*	-4.4680 (10.40)*
9-11 years of schooling	.3770 (4.86)*	.1861 (4.12)*	.2359 (2.26)*
12 years	.5007 (8.13)*	.2343 (4.82)*	.2781 (2.98)*
Some college	.3646 (6.02)*	.4533 (9.31)*	.3732 (3.97)*
Bachelor's degree	.2384 (3.98)*	.5239 (7.57)*	.0865 (0.85)
Master's degree	-.0547 (0.78)	-.5835 (5.65)*	-.0674 (0.63)
Professional degree	.9565 (12.39)*	1.2590 (15.43)*	.6987 (5.68)*
Ph.D.	-.6679 (6.09)*	-.1383 (0.65)	-.8865 (5.63)*
Age	.2017 (13.91)*	.1401 (9.40)*	.0737 (3.58)*
Age <sup>2</sup>	-.00208 (12.84)*	-.00137 (7.92)*	-.0008 (3.43)*
Years since migration	.0757 (20.74)*	.0382 (8.84)*	.1154 (18.73)*
Percent admitted on the basis of occupational skills	-.4282 (1.97)*	.0752 (0.19)*	.5854 (2.94)*
Percent admitted as siblings of U.S. citizens	2.7850 (24.47)*	1.5436 (6.39)*	-.9151 (4.87)*
-2 log likelihood			
-- intercept only	34188.950	32601.964	15039.800
-- intercept and covariates	31800.797	31701.502	14300.709
Sample size	42,723	63,038	18,724
* Statistically significant at .05 level assuming independent error terms (see note 7).			

Table 4: Regression of Log(Earnings) for Immigrant Men, 25-64 Years Old,  
Controlling for Percentage of Country-of-Origin/Year-Of-Immigration Cohort  
Admitted on the Basis of Occupational Skills  
(t-test statistics are in parentheses)

Explanatory Variables	All immigrants; no country- specific controls	Excluding high illegal and refugee sources	All immigrants; with country-specific controls
Percent admitted on the basis of occupation	3.4215* (56.98)	4.1188* (53.03)	2.9486* (23.89)
Years since migration	.0569* (64.20)	.0699* (46.35)	.0593* (61.08)
Years since migration x Percent occupation	-.1087* (-14.98)	-.2121* (-21.80)	-.1468* (-16.94)
Adjusted R <sup>2</sup>	.25	.22	.28
Sample size	112,253	60,042	112,253

Notes: The regressions also included the explanatory variables age, age squared, and eight categorical variables measuring the education level of immigrants. Full regression results are available from the authors.

\*Statistically significant at .05 level assuming independent error terms (see note 7).

Table 5: Regression of Log(Earnings) for Immigrant Men, 25-64 Years Old, Controlling for Percentage of Country-of-Origin/Year-Of-Immigration Cohort Admitted on the Basis of Occupational Skills and Dividing by Level of Education (t-test statistics are in parentheses)

Explanatory Variables	Bachelors or higher	High school diploma or higher	Less than Bachelors	Less than high school diploma
Percent admitted on the basis of occupation	4.7444* (48.11)	4.2042* (59.37)	2.9835* (35.71)	2.6834* (17.35)
Years since migration	.0802* (39.63)	.0674* (53.00)	.0525* (53.05)	.0481* (37.61)
Years since migration x Percent occupation	-.2554* (-20.29)	-.1863* (-21.15)	-.0809* (-8.04)	-.0298 (-1.57)
Adjusted R <sup>2</sup>	.21	.20	.15	.08
Sample size	31,101	68,464	81,151	43,788

Notes: The regressions also included the explanatory variables age, age squared, and the appropriate categorical variables measuring the education level of immigrants within the educational categories that define each sample. Full regression results are available from the authors.

\*Statistically significant at .05 level assuming independent error terms (see note 7).

Table 6: Regression of Log(Earnings) for Immigrant Men, 25-64 Years Old, Controlling for Percentage of Country-of-Origin/Year-Of-Immigration Cohort Admitted via the Fifth Preference (t-test statistics are in parentheses)

Explanatory Variables	No control for Percent Occupation; no country-specific controls	Controls for Percent Occupational Skills Immigrants (versus Family Admissions in general)	Controls for Percent Occupational Skills; includes country-specific controls
Years since migration	.0254* (27.71)	.0467* (45.79)	.0565* (50.71)
Percent admitted via the fifth preference	-1.0506* (-19.25)	-.9477* (-17.81)	-.4657* (-4.49)
Years since migration x Percent fifth preference	.1322* (25.57)	.1065* (19.97)	.0364* (5.40)
Percent admitted on the basis of occupation		3.5189* (58.23)	2.9620* (23.33)
Years since migration x Percent occupation		-.1333* (-17.80)	-.1549* (-17.19)
Adjusted R <sup>2</sup>	.21	.25	.28
Sample size	112,253	112,253	112,253

Notes: The regressions also included the explanatory variables age, age squared, and eight categorical variables (including the reference category) measuring the education level of immigrants. Full regression results are available from the authors.

\*Statistically significant at .05 level assuming independent error terms (see note 7).