GREEN CARDS AND THE LOCATION CHOICES OF IMMIGRANTS IN THE UNITED STATES, 1971–2000

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ABSTRACT

This paper examines the determinants of the initial location choices of immigrants who enter the U.S. with different kinds of visas (''green cards''). Conditional logit models with the 48 contiguous U.S. states as the choice set are estimated using population data on immigrants from the Immigration and Naturalization Service between 1971 and 2000 matched to data on state characteristics from the Integrated Public Use Microsamples of the U.S. Census. As in previous research, it is estimated that immigrants have a higher probability of moving to states where individuals from their region of birth are a larger share of the state population, with relatives of legal permanent residents responding most to this factor. In addition, it is estimated that immigrants in all admission categories respond to labor market conditions when choosing where to live, but that these effects are the largest for male employment-based immigrants and, surprisingly, refugees. These relationships are relatively stable across models that include state fixed effects as well as those that allow the coefficients to vary across the four decades available in the data.

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1. INTRODUCTION

Since 1971, approximately 25 million immigrants have entered the U.S. as legal permanent residents. These immigrants have tended to locate on both coasts and along the southern border, with labor market and fiscal impacts of immigrants concentrated in those areas. That immigrants tend to locate near the border might suggest that immigrants are relatively insensitive to economic conditions in the interior of the U.S. even though many come to the U.S. for economic reasons.

Given the continued large flow of immigrants that began in 1965 with the change in U.S. immigration law from a geographic quota system to one determined primarily by the goal of reuniting families, the determinants of immigrant location choice should be important considerations in designing immigration policy. The capacity of the U.S. to absorb immigrants is potentially much greater if they are more likely to respond to disperse economic opportunities rather than clustering solely in "traditional" immigrant-receiving areas.

The literature on the determinants of immigrant locations in the U.S. provides mixed evidence on the responsiveness of immigrants to geographic variation in labor market conditions. Bartel (1989), using individual-level data of the 1980 U.S. Census, estimated a conditional logit model and found that the foreign-born tend to locate in metropolitan areas with large ethnic populations and that more highly-educated immigrants tend to be less geographically concentrated than less-educated immigrants. She also found that immigrants are relatively insensitive to economic conditions, a result that has been frequently cited in the literature on the impact of immigration on the labor market outcomes of native workers (see Borjas, 1999 for an overview). Dunlevey (1991), using aggregated data from the Immigration and Naturalization Service (INS) from 1986 and 1987, focused solely on the location patterns of Caribbean- and Latin-born resident aliens. He found that new immigrants are attracted to locations with relatively large concentrations of similar immigrants. Zavodny (1999) followed a similar estimation strategy using aggregate data from annual INS and Office of Refugee Resettlement reports from 1989 to 1994 and found that flows of new immigrants respond both to demographic factors like the share of the foreign-born in a state as well as economic factors like the unemployment rate. She found that these influences vary by visa type, with employment immigrants being affected most by economic factors and family reunification immigrants being more influenced by high concentrations of the foreign-born. Bauer, Epstein, and Gang (2002) used individual level data from the Mexican Migration Project

and estimated a model similar to that of Bartel (1989) and Jager (2000). They examined the importance of immigrant concentrations in greater detail and found that Mexican immigrants respond both to recent flows as well as the stock of immigrants from their village when deciding where to locate in the U.S. They also presented some evidence that local unemployment rates affect immigrants' choices, particularly for those who are in the U.S. illegally. Borjas (2001), using Census and Current Population Survey data from the 1990s, found that immigrants were more responsive than natives to differences in economic conditions and that they "grease the wheels" of the labor market by bringing workers to where they can be used most efficiently.

In this paper, I revisit the issue of immigrants' location choice by using INS data on nearly every legal immigrant who came to the U.S. to reside permanently between 1971 and 2000. Unlike most past research, I stratify by one of the primary policy levers used to alter the character flow of the legal immigrant flow to the U.S.: green card categories. I also look at a much longer time frame than previous research. Because I have information on *nearly every legal immigrant* that has come to the U.S. since 1971, my samples are quite a bit larger than those used previously. Matching these data to samples of the U.S. population from the 1970 through 2000 U.S. Censuses, I find that labor market conditions (measured by unemployment and expected wages) affect immigrant location choices across time and across admission categories, but are most important in determining employment-related immigrants' locations. Like past research, I find that concentrations of similar immigrants (defined by region of birth) are also important determinants of where immigrants decide to live, particularly for relatives of past green card recipients.

The next section of the paper briefly discusses the admission categories that are used to determine the eligibility of a foreign national to emigrate to the U.S. and which form the core of the analysis in the paper. I then present, in Section 3, some descriptive statistics on the origin of immigrants in broad admission categories and where they locate in the U.S. I discuss the skills of immigrants in different admission categories in Section 4. In Section 5, I describe the stochastic choice model and present estimates of the parameters of that model for immigrants in different admission categories. I offer some conclusions in Section 6.

2. A BRIEF OVERVIEW OF ADMISSION CATEGORIES

The Immigration and Naturalization Services Act of 1965 abolished national origin as the primary basis of U.S. immigration law and replaced

it with a system based mainly on three objectives: to reunite families, to fill jobs with skilled or needed workers, and to provide safe haven for refugees. Of these, the first is by far the most important and a majority of legal immigrants enter the U.S. through this channel. The law distinguishes between admission categories that have annual limits on the number of visas that can be issued and those that do not. Immediate relatives of U.S. citizens (spouses, parents, and unmarried children under 21) are not subject to quotas on the number of available visas while all other admission categories, or "green cards,"[1] are subject to annual quotas. Limits are imposed both by the type of green card and by the country of "chargeability," which is usually an immigrant's country of birth. Refugees and asylum seekers face different limitations than other visa categories.

While reuniting families, filling jobs, and providing safe haven have remained the primary goals of U.S. immigration policy, the absolute number of numerically limited green cards as well as the relative share of those green cards in different categories have changed at various points since 1965. Most notably, the Immigration Act of 1990 increased both the total number of numerically limited green cards as well as the share of those devoted to employment immigrants. The "diversity" category was also introduced by the Immigration Act of 1990, with the objective of increasing the number of immigrants from "underrepresented" countries, those that sent fewer than 50,000 individuals to the U.S. during the previous five years.[2] These visas are allocated by a lottery; in 2005, the U.S. Department of State received 6.3 million valid applications for 50,000 diversity green cards.

In this paper, I divide immigrant entrants into seven primary categories: immediate family of U.S. citizens not subject to quotas (spouses, unmarried children under 21, and parents), family of U.S. citizens subject to quotas (unmarried children over 21, siblings, and married children), family of legal permanent residents (i.e. current green card holders), employment-based visas,[3] "diversity" visas,[4] refugees and asylees, and a vestigial category of entrants from the Western Hemisphere.[5] There are many different kinds of visas within each of these categories, but they represent the basic outline of U.S. immigration policy.[6]

The entry requirements vary by visa type and therefore we might expect the location choices of immigrants in different admission categories to vary as well. Family reunification immigrants must have a sponsoring relative already in the U.S. who files a petition with U.S. Citizenship and Immigration Services (CIS, formerly one of the constituent parts of the INS). Employment-based immigrants must, in general, already have secured

a job in the U.S. and their prospective employer must file a petition with CIS for them to be admitted. In addition, for most employment visas, the U.S. Department of Labor must certify that no qualified U.S. worker is available to fill the job. Unlike family-reunification and employment-based immigrants, immigrants entering on a diversity green card do not necessarily have prior connections to individuals or firms in the U.S. They therefore provide, perhaps, the best measure of how a random individual from outside the U.S. would respond to various factors that determine location choice. Refugees, in general, enter the U.S on temporary visas first and then can apply for legal permanent residence.[7]

An immigrant who desires to enter the U.S. under a visa category that is subject to numerical limits may have to wait in a queue until an appropriate visa becomes available. The length of this wait can vary substantially by visa category and the immigrant's country of chargeability. For example, in May 2006, the "priority date" for individuals from the Philippines waiting to enter as a sibling of a U.S. citizen was 15 October 1983, meaning that their application for admission must have been approved on or before that date for them to eligible for a visa of that type. For all other countries other than Mexico and India, the "priority date" for a visa for a sibling of a U.S. citizen was 1 January 1995 – still a substantial wait. Of course, immigrants can potentially avail themselves of more than one potential sponsor, particularly for family-reunification visas, and may strategically choose under which category to apply. Because I have no way of knowing who an immigrant's potential sponsors are, I will not try to model this choice, but merely note that an immigrant may have more than one legal path of entry into the U.S.

Two final distinctions made by U.S. policy should be noted. First, an immigrant whose relationship to an individual or firm in the U.S., refugee status, or lottery success allows them to enter the U.S. is considered the "primary" immigrant. Their immediate family (spouse and minor children) may, in general, also enter the U.S. at the same time. If they do, they are considered "beneficiaries" of the primary immigrant because their visa status is a "derivative" of the status of the primary immigrant.[8] Second, individuals may apply for legal permanent residency while they are either inside or outside of the U.S. Those who are already in the country must "adjust" their status from temporary (e.g. a student, J, or temporary employment, H, visa) to permanent. Those who are outside of the U.S. enter as "new" immigrants, although, of course, they are very likely to have ties to individuals or firms in the U.S. For the regression analysis later in the paper, I will examine the location choices of newly arrived primary immigrants to minimize potential endogeneity issues.

3. DATA

Data on nearly every immigrant admitted legally to the U.S. between 1971 and 2000 are available in the various *Immigrants Admitted to the United States* files produced by the former INS (now split into several sub-agencies of the Department of Homeland Security). I use all of the data available from 1971 to 2000 for the descriptive statistics in the paper. The key variable available in the INS data that is not available in other data sources such as the Census or Current Population Survey is the type of visa under which an immigrant was admitted to the U.S. Reflecting the complexity of U.S. immigration law, there is a substantial amount of detail available about visa type in the INS data. But to simplify the analysis and provide consistency over time, I divide the immigrant population into the seven broad visa categories discussed above: immediate relatives of U.S. citizens not subject to quota limitations, other family of U.S. citizens subject to quota limitations, family of resident legal aliens, employment-related, diversity (for the years after 1991), Western Hemisphere immigrants (for the years prior to 1977), and refugees. The descriptive graphs also present a residual category of "other." Categorization of the detailed visa types available in the INS data into these seven areas generally follows the classification outlined in the documentation to the 2000 INS data file (U.S. Department of Justice, 2000). The INS data are made available by fiscal year but I present results by calendar year.[9]

In this paper, I use states as the geographic units of analysis. I define the geography this way for a variety of reasons. First, this allows me to examine the behavior of all of the immigrants who locate in the contiguous 48 states, rather than excluding those who live outside of some arbitrary number of large cities.[10] Second, inclusion of all 48 contiguous states provides a "control" group of states, partially absent from analyses that use only large metropolitan areas (e.g. Bartel, 1989), which do not include large numbers of immigrants that entered the U.S. previously. Using a choice set of 48 states is both computationally feasible in the conditional logit analysis described below while also providing a substantial amount of variation in the right hand side variables. Third, and most important, state boundaries are constant and permit direct comparisons over time without concerns about how differing definitions of metropolitan areas might alter the descriptive statistics or the estimated coefficients of the models. In the INS data, the observed "location" is the address to which the immigrant's green card was mailed. While this may or may not be the exact location in which the immigrant initially lived, for my purposes there will be no mismeasurement

of their location as long as the immigrant received their green card in the state in which they first resided.

For the regression analysis, data on state characteristics (e.g. unemployment, wages, and concentrations of the foreign-born) are drawn from the Integrated Public Use Microsamples of the U.S. Census, or IPUMS (Ruggles, et al., 2004) from 1970, 1980, 1990, and 2000. Each Census provides a snapshot of the U.S. population on 1 April of that year. These data are then matched to the information on individual immigrants from the INS data. To estimate the stochastic choice models, I use data on non-refugee immigrants who entered the U.S. from June to December 1971 (the earliest data available), May to December 1980, May to December 1990, and May to September 2000, matched to data from the 1970, 1980, 1990, and 2000 IPUMS, respectively. Thus, I measure the location decisions of immigrants just after the labor market conditions and socio-demographic distributions are observed. I estimate the models for non-refugees only using ''new'' immigrants who were (presumably) not in the U.S. at the time of the Census. These two restrictions reduce, as much as possible, the possibility of endogeneity bias that is present in some previous estimates (e.g. Bartel, 1989), in the sense that the observed information about a state would include the immigrant herself, while still giving a strong temporal link between the observed U.S. conditions and the location choices of immigrants.

Because refugees are observed only when they change their status from temporary to permanent, I must treat them differently when defining the regression samples.[11] The INS data record only the year, but not the month, in which ''adjustees'' first entered the U.S. on a temporary visa. To avoid endogeneity issues, I match the 1980 Census data to individuals in the INS data who first entered the U.S. in 1981 and received their green card in 1981 or 1982; the refugee population matched to the 1990 Census is defined similarly. The refugee population matched to the 1970 Census data includes ''new'' refugees who received their green cards in the latter half of 1971 or the first half of 1972 as well as ''adjusting'' refugees who first entered the U.S. in 1971 and received their green card between 1971 and 1974. Because the INS data are available only until fiscal year 2000 (October 1999 to September 2000), I do not have data on any refugees who I am certain entered the U.S. after the Census data of 1 April 2000. I must also assume that the location of a refugee when entering U.S. was same as the location when they received their green card, as the INS data do not record the immigrants' initial locations. The populations are chosen to limit the amount of time between initial entry and when I observe the immigrant's location. Because of these data limitations, the temporal and perhaps spatial

link between the observed conditions in the U.S. and the location choice of refugees may not be as close as for the other admission categories.

I impose two other restrictions on the population used for the regression analysis. First, I limit the data to individuals who were 25–60 years old at the time they received their green cards and who did not report their occupation as a student, to insure that they have some potential connection to the labor market. Second, I conduct the regression analysis only on "primary" immigrants – that is, the immigrants whose status permitted their immediate family (if any) to enter the U.S. This abstracts from issues of intra-household correlation of unobserved characteristics and insures that only one individual per family is used for the regression analysis.[12]

4. HOW MANY IMMIGRANTS? FROM WHERE? TO WHERE?

The flow of immigrants to the U.S. since 1971 has not been constant, peaking in the mid-1990s then declining until 2000. Fig. 1 shows the flow of immigrants from 1972 to 1999 (the first and last years in which data for the full calendar year are available) in the seven admission categories discussed above. These figures include both "new" immigrants as well as those who were adjusting their status from a temporary to permanent legal residency. The number of immigrants admitted to the U.S. more than doubled between

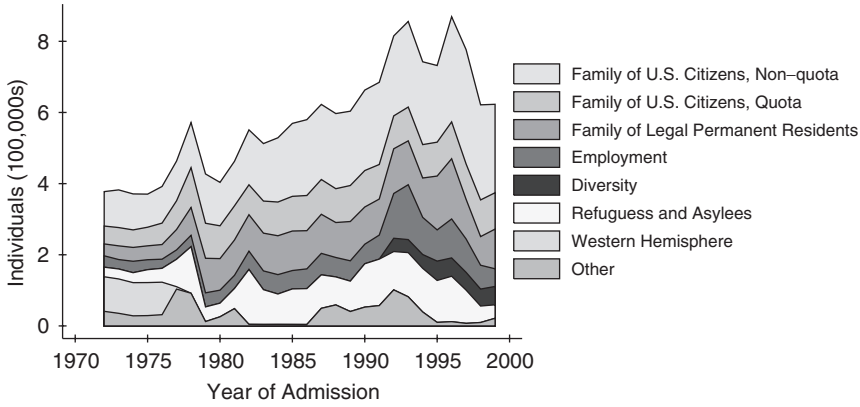

Fig. 1. Number of Immigrants Admitted to the U.S.
Note: 48 Contiguous States.
Source: Author's Tabulations of INS Data.

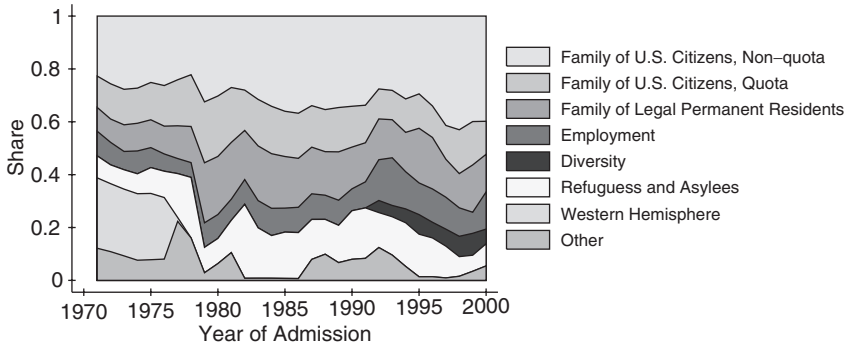

Fig. 2. Share of Admission Categories of Immigrants Admitted to the U.S.
Note: 48 Contiguous States.
Source: Author's Tabulations of INS Data.

1972 and 1996, from just less than 400,000 to a peak of about 870,000, and then decreased to around 625,000 in 1999.[13]

Fig. 2 presents the share of each green card group in total immigrant admissions from 1971 to 2000. Immediate relatives of U.S. citizens, who are not subject to quota limitations, are always the largest group, with a share that has been generally increasing from around 25 percent in the early 1970s to around 40 percent in the late 1990s and 2000. The number of other relatives of U.S. citizens, which is subject to a quota, has fluctuated somewhat, but has usually remained between 12 and 18 percent of the total. Not surprisingly, given the increasing number of green card holders, the share of relatives of legal permanent residents increased fairly substantially from the early 1970s (when it was around 10 percent) to the mid-1980s (when it was around 20 percent). The share of this group then declined somewhat in the 1990s and by 2000 was around 15 percent. Total family-related admissions (relatives of U.S. citizens and legal permanent residents) have been at least half of the entire flow of immigrants since 1973, at times exceeding 70 percent of the flow. This has been in spite of the legislative changes in 1990 that increased the number of employment-based visas and introduced employment-creation and "diversity" green cards (winners of the visa lottery). Reflecting those changes, employment-based entrants (including those entering as beneficiaries of the job holder) increased from less than 10 percent of the total in 1971 to a peak of 18 percent in 1992, falling back to an average of around 11 percent from 1995 to 2000. Refugee admissions have fluctuated substantially depending on the conditions around the world that warrant awarding refugee status, from a minimum of 6 percent in 1999 to a

maximum of 28 percent in 1982. The number of diversity admissions has remained fairly constant at around 50,000 per year since their introduction in 1992, but as a share have fluctuated between 4 and 8 percent of the total.

4.1. Where Did the Immigrants Come from?

Past research (e.g. Bartel, 1989; Jaeger, 2000; Bauer et al., 2002) has shown that concentrations of similar immigrants are important determinants of location choice. To the extent that immigrants in different admission categories originate in different countries, we would expect that settlement patterns would also differ across those categories. Given the different requirements of the various types of green cards, it is not surprising that immigrants entering the U.S. under different visas come from different areas of the world. In Figs. 3–8, I present the share of green card recipients from each of 13 regions of origin in each of the seven primary admission categories.[14] Relative to other visa groups, immediate relatives of U.S. citizens (Fig. 3) have had a roughly constant distribution across the 13 regions of origin over time. The biggest changes have been an increase in entrants from Eastern Europe after 1985 and an increase in the share of entrants from Mexico and Central America after the mid-1990s.

Compared to immediate family of U.S. citizens, both family of U.S. citizens subject to quotas (Fig. 4) and relatives of legal permanent residents

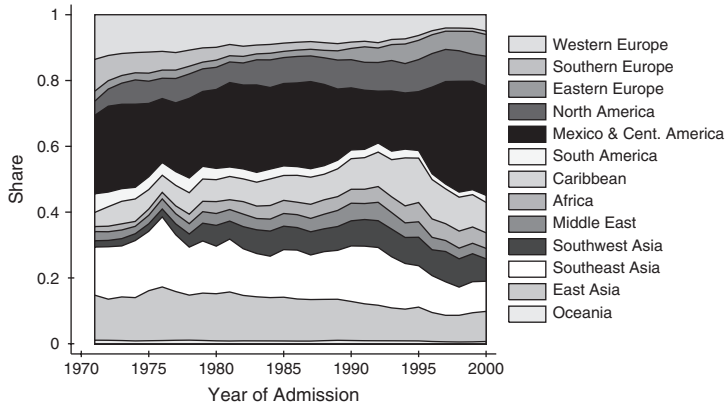

Fig. 3. Share by Country of Birth of Relatives of U.S. Citizens, Non-Quota.
Note: 48 Contiguous States.
Source: Author's Tabulations of INS Data.

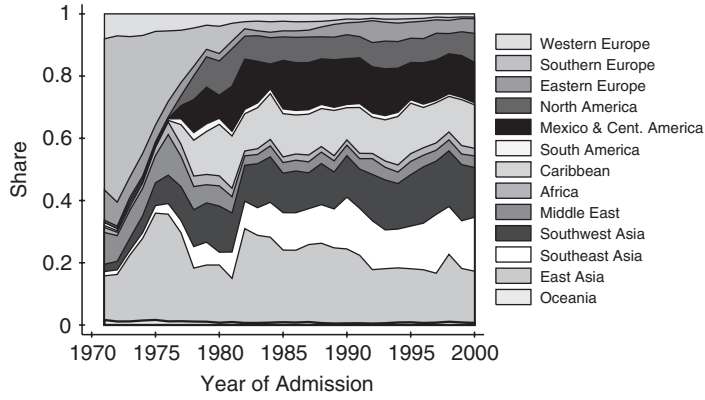

Fig. 4. Share by Country of Birth of Relatives of U.S. Citizens, Quota.
Note: 48 Contiguous States.
Source: Author's Tabulations of INS Data.

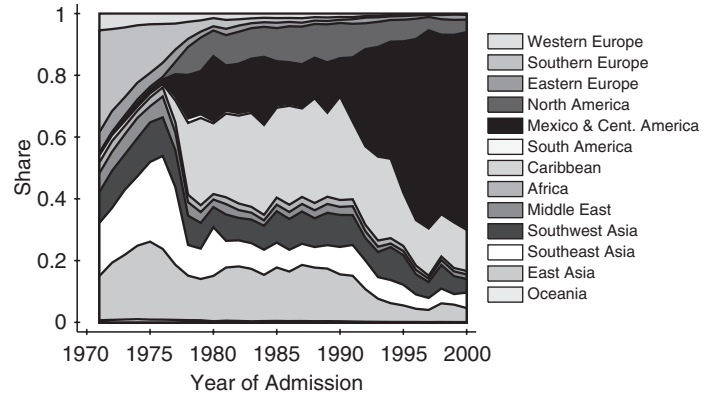

Fig. 5. Share by Country of Birth of Relatives of Legal Permanent Relatives.
Note: 48 Contiguous States.
Source: Author's Tabulations of INS Data.

(Fig. 5) have experienced much greater shifts in the distribution across region of origin. For relatives of U.S. citizens, the largest changes came after 1975, when immigrants from the Western Hemisphere (i.e. from North America, Mexico and Central America, the Caribbean, and South America) were required to enter the U.S. through the ''normal'' admission categories from which they had previously been exempt. At the same time that the

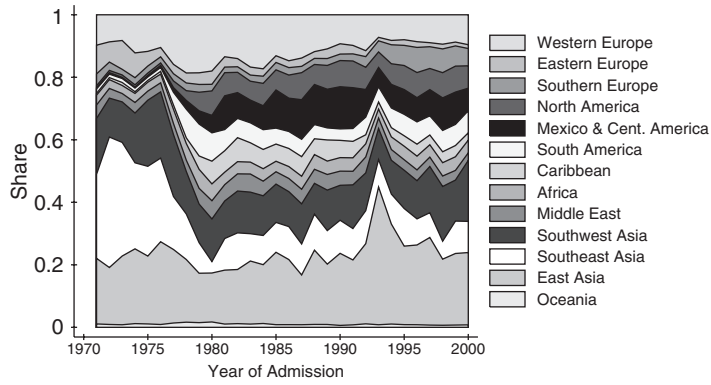

Fig. 6. Share by Country of Birth of Employment Immigrants.
Note: 48 Contiguous States.
Source: Author's Tabulations of INS Data.

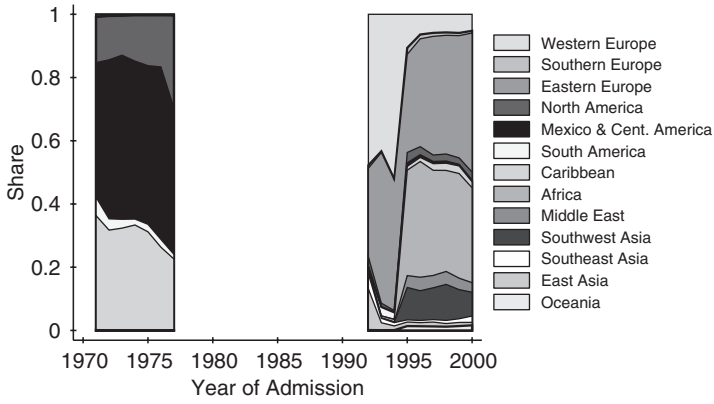

Fig. 7. Share by Country of Birth of Western Hemisphere Immigrants, 1971–1977, and Diversity Immigrants, 1992–2000.
Note: 48 Contiguous States.
Source: Author's Tabulations of INS Data.

share of Western Hemisphere immigrants was increasing, that of immigrants from Western and Southern Europe was decreasing. Relative to the 1970s, the share of Eastern Europeans and Southeast Asians increased in the early and mid 1980s. Since 1985, however, the shares from the various country groups have been quite stable. This has not been the case for relatives of

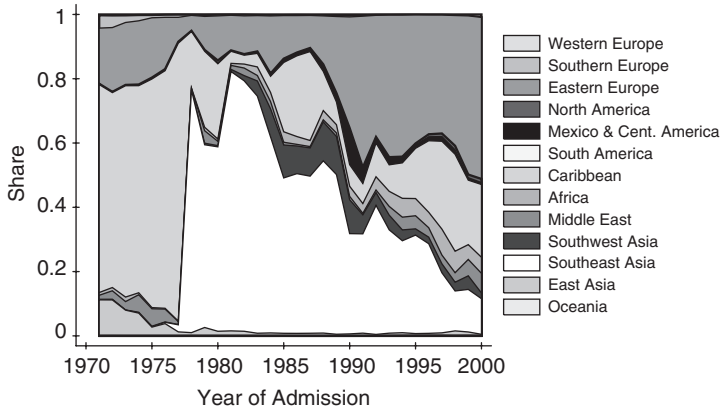

Fig. 8. Share by Country of Birth of Refugees and Asylees.
Note: 48 Contiguous States.
Source: Author's Tabulations of INS Data.

legal permanent residents. As with numerically limited relatives of U.S. citizens, there was a large increase in the share of immigrants from Mexico and Central America and South America when Western Hemisphere immigrants were required to enter under "normal" categories after 1976. What is more striking, however, is the substantial increase in the share of immigrants from Mexico and Central America after 1990. The timing of this large increase coincides with the legalization of illegal aliens following the 1986 Immigration Reform and Control Act (IRCA), which were largely of Mexican and Central American origin, suggesting that the overall impact of IRCA on the number of legal immigrants was substantially greater than just the 2.8 million who were admitted directly.

The change in the region-of-origin composition after 1976 is also evident in the distribution of employment-based green cards. Fig. 6 shows the time pattern of these flows. On the whole, the shares were fairly stable after 1980, with a notable spike of East Asians in 1993 and an increase in Eastern Europeans following the fall of the Iron Curtain.

The region-of-origin distributions of Western Hemisphere and diversity immigrants are shown in Fig. 7.[15] The most notable feature here is the change in the composition of the flow of diversity immigrants in 1995. This is because in 1995 the countries from which diversity immigrants could come was substantially increased; prior to 1995, citizens of Ireland and Poland were the main beneficiaries of the diversity visa program.

The origin of refugees is determined both by political and humanitarian situations around the world. Fig. 8 presents the region-of-origin shares of refugees. Refugees were predominantly from Cuba in the early 1970s. The share of refugees from Southeast Asia increased following the end of the Vietnam War and since approximately 1980 there has been a steady increase in the share of refugees from Eastern Europe, particularly just prior to, and after, the break up of the Soviet Union.

4.2. Where Did the Immigrants Go?

It is well known that immigrants tend to be more geographically concentrated than natives. I present Herfindahl indices of concentration for the flow of immigrants to the U.S. (measured annually from 1971 to 2000 in the INS data) and the stocks of foreign- and native-born individuals (measured at 10 year intervals from 1970 to 2000 in the IPUMS data) in Fig. 9. The Herfindahl index is given by

$$H_{it} = \sum_{j=1}^{48} \theta_{ijt}^2 \tag{1}$$

where θ_{ij} is the share of group i that is located in state j, in year t, with $0 \leq H_{it} \leq 1$. Smaller values of H_{it} indicate lower degrees of geographic

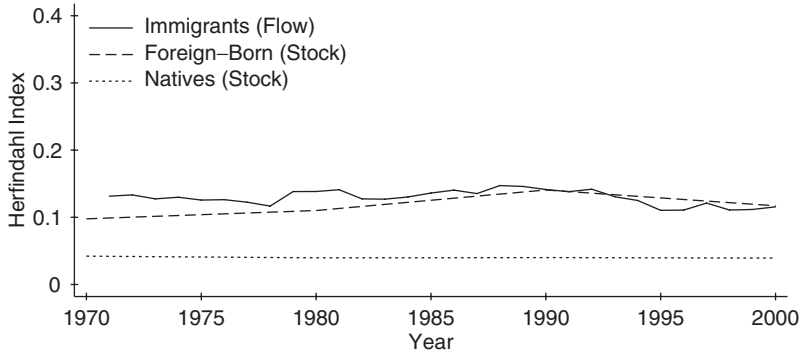

Fig. 9. Geographic Concentration of Stock of Foreign-Born and Natives, Flow of Immigrants.
Note: 48 Contiguous States.
Source: Author's Tabulations of IPUMS and INS Data.

concentration. The geographic concentration of natives was essentially constant, while that for both the flow of immigrants and the stock of the foreign-born peaked around 1990 and then declined by 2000. The flow of immigrants appears to have been less geographically dispersed than the stock of the foreign-born in 1970 and 1980, but they were essentially concentrated to the same degree by 1990 and 2000.

Fig. 10, for family reunification visas, and Fig. 11, for all other admission categories, repeat this exercise. Immediate family of U.S. citizens

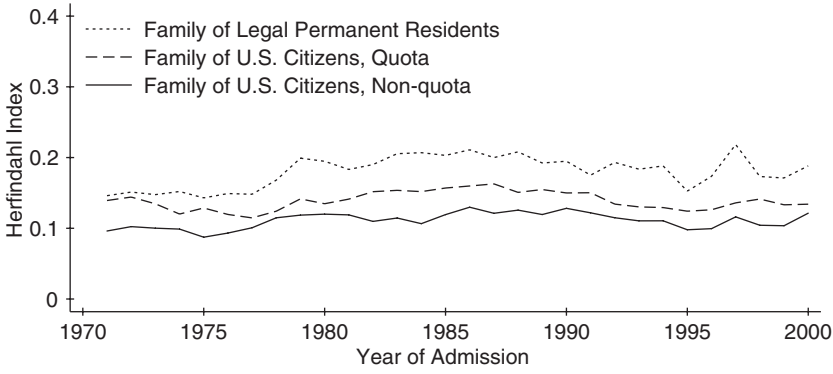

Fig. 10. Geographic Concentration of Family Reunification Immigrants.
Note: 48 Contiguous States.
Source: Author's Tabulations of INS Data.

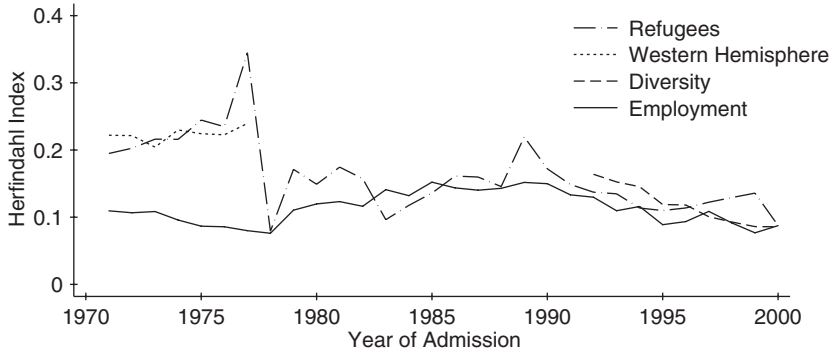

Fig. 11. Geographic Concentration of Employment, Refugee, and Western Hemisphere Immigrants.
Note: 48 Contiguous States.
Source: Author's Tabulations of INS Data.

(mostly spouses) are, less concentrated than other relatives of U.S. citizens, but are, still substantially more concentrated than the total native-born population, in comparison to Fig. 9. Relatives of legal permanent residents are less dispersed than the relatives of U.S. citizens, which is not surprising, given that the foreign-born are more concentrated than the native-born. As with the overall flow of immigrants, the geographic concentration of employment-visa immigrants peaked between 1985 and 1990. The increase in geographic dispersion since 1990 is also evinced by diversity immigrants, who have grown more disperse each year since the visa lottery was introduced. Refugees have exhibited a high degree of variability in their degree of geographic concentration, reflecting the sometimes sudden changes in the country of birth composition of refugees. Overall, however, refugees have also grown more disperse since 1990. Western Hemisphere immigrants were relatively highly concentrated compared to other admission categories.

The conventional wisdom is that immigrants locate primarily in six states: California, New York, Florida, Texas, New Jersey, and Illinois. While this has remained roughly true during the 30 years under examination in this paper, the Herfindahl indices presented above suggest substantial variation across admission categories in the degree to which these six states receive the bulk of immigrants. The Herfindahl indices, however, do not capture the shifting location choices of immigrants. To examine where immigrants choose to live in greater detail, in Figs. 12–19 I present maps of the geographic distribution of natives, the foreign born, and the various immigrant groups across the 40 years of this study. Figs. 12 and 13 show the distribution of the stock of the native and foreign-born populations, respectively, in each of the four Census years. Figs. 14–19 present the geographic distribution of the cumulative immigrant flow for each green card category during the three decades under study. In each map, the share of the stock or flow is grouped into five categories, with the each break point between categories being double the previous break point, i.e. the categories are [0%, 0.5%], (0.5%, 1.0%], (1.0%, 2.0%], (2.0%, 4.0%], (4.0%, 8.0%], (8.0%, 16.0%], and (16.0%, 100.0%].

It was clear from Fig. 9 that natives are geographically less concentrated than the foreign born. This can also be seen by comparing Figs. 12 and 13 for natives and the foreign born, respectively. Between 1970 and 2000 both populations shifted away somewhat from northern states like New York and Michigan. While the "Big 6" states were important locations in all four decades for immigrants, they also started moving to non-traditional locations like Arizona, Nevada, North Carolina, and Utah in the latter

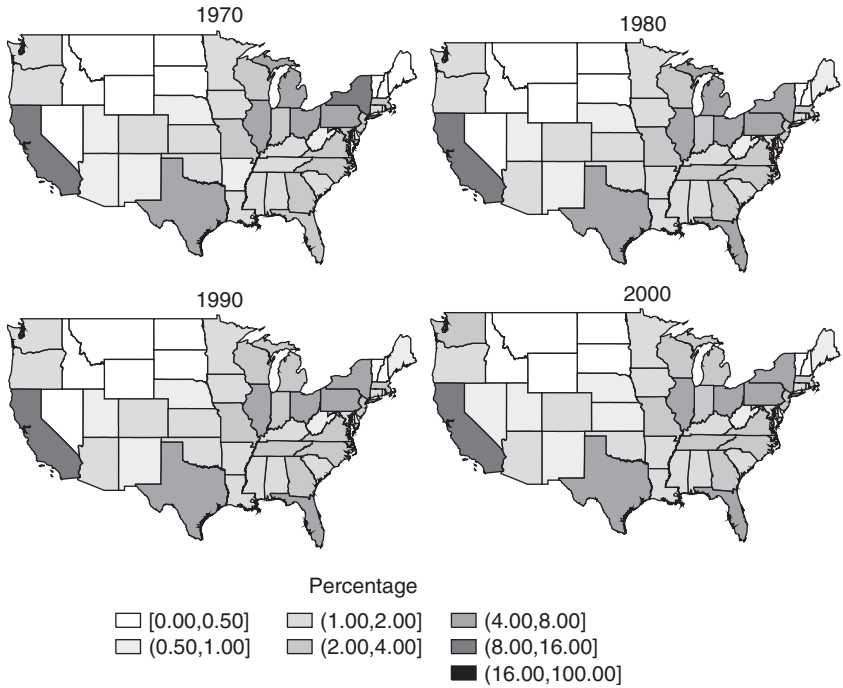

Fig. 12. Locations of Native Population, 1970–2000.
Note: Map Shows Share of Native Population Living in Each State.
Source: Author's Tabulations of IPUMS Data.

two decades. Unlike in 1970, Texas and Florida were roughly as important locations for the foreign-born as New York in 2000.

Like the geographic distribution of natives, the location choices of immediate relatives of U.S. citizens, shown in Fig. 14, have also changed relatively little in the three decades between 1971 and 2000. The same could also be said of other relatives of U.S. citizens, shown in Fig. 15, except for a slight shift toward the south- and northwestern states. There have been substantial changes, however, in the location choices of relatives of legal permanent residents, as shown in Fig. 16. Given the large increase in the share of this group coming from Mexico and Central America, as shown in Fig. 5, it is perhaps not surprising that Texas became an increasingly important destination. There was also been a distinct shift toward states relatively near to Texas and California (Arizona, New Mexico, Nevada, Utah, Oklahoma, Kansas, and Colorado) as well as the northwest (Washington and Oregon).

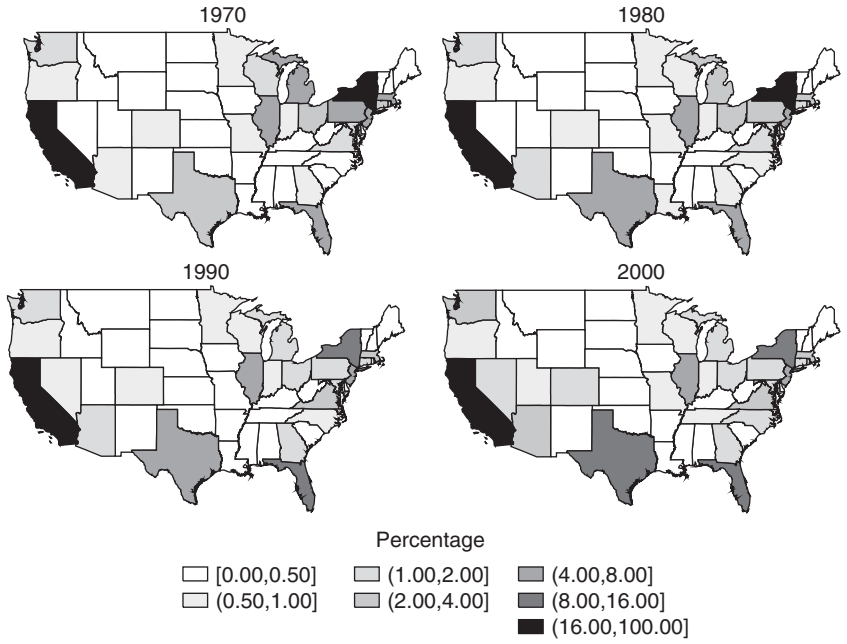

Fig. 13. Locations of Foreign-Born Population, 1970–2000.
Note: Map Shows Share of Foreign-Born Population Living in Each State.
Source: Author's Tabulations of IPUMS Data.

There was variation across non-family-reunification admission categories as well. Employment visa immigrants, shown in Fig. 17, were less concentrated in all three decades than the family of legal permanent residents and non-immediate family of U.S. citizens. In all three periods, they were more likely to locate in the upper Midwest and the Southeast than either family of legal permanent residents or non-immediate family of U.S. citizens. The most notable changes among employment immigrants were shifts away from Illinois after 1980 and New York after 1990. Fig. 18 shows that Western Hemisphere immigrants were highly concentrated in the "Big 6" states, and avoided locating in much of the country. Diversity immigrants were less highly concentrated than those from the Western Hemisphere 20 years earlier, but still much more concentrated than natives or immediate family of U.S. citizens, with the "Big 6", particularly New York, figuring prominently in their location choices. In general, the geographic distributions of refugees, shown in Fig. 19, were fairly similar to those of non-immediate family of U.S.

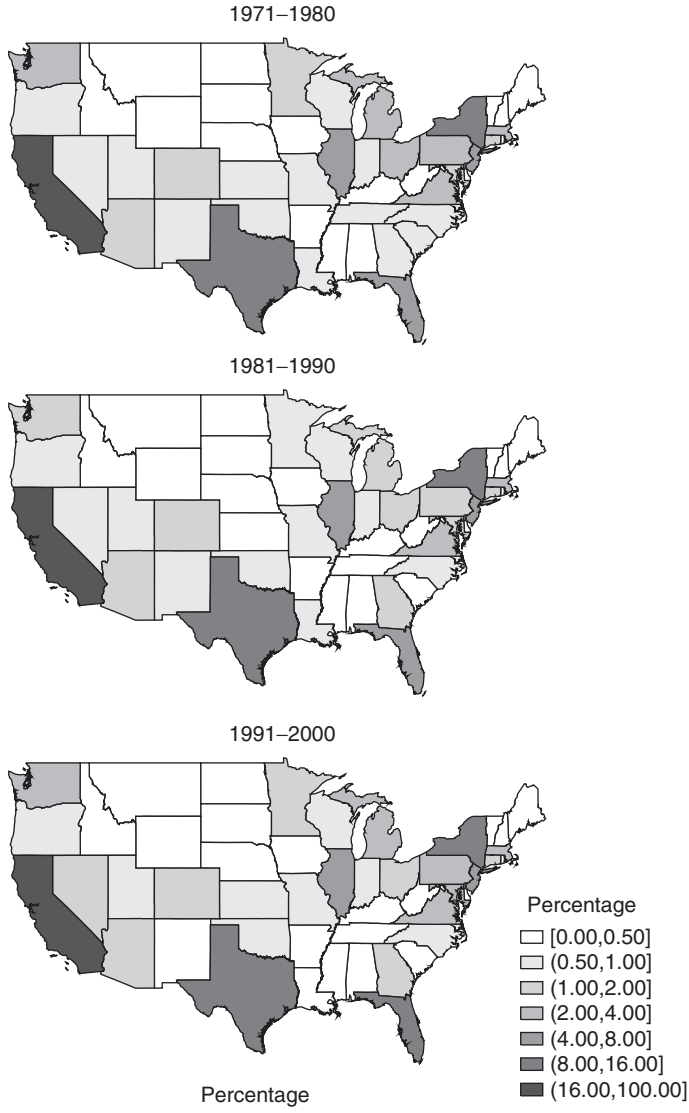

Fig. 14. Locations of Relatives of U.S. Citizens, Non-Quota.
Note: Map Shows Share of Cumulative Flow in Decade Locating in Each State.
Source: Author's Tabulations of INS Data.

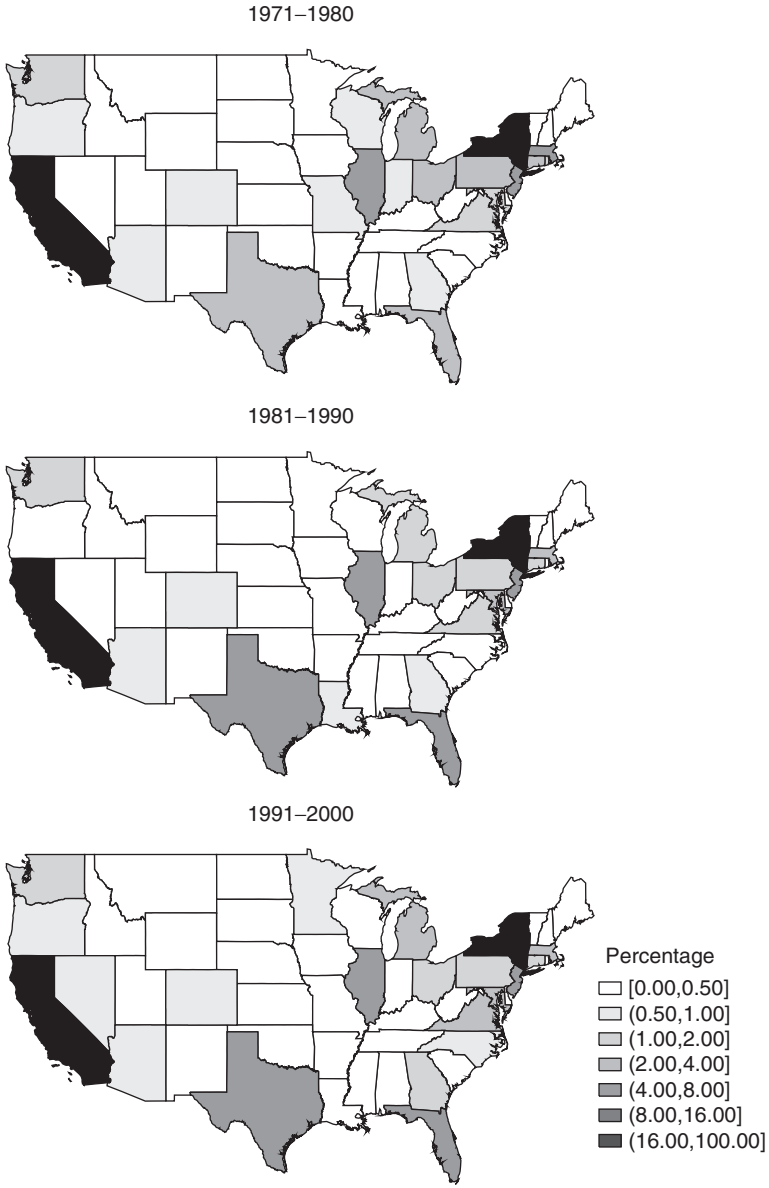

Fig. 15. Locations of Relatives of U.S. Citizens, Quota.
Note: Map Shows Share of Cumulative Flow in Decade Locating in Each State.
Source: Author's Tabulations of INS Data.

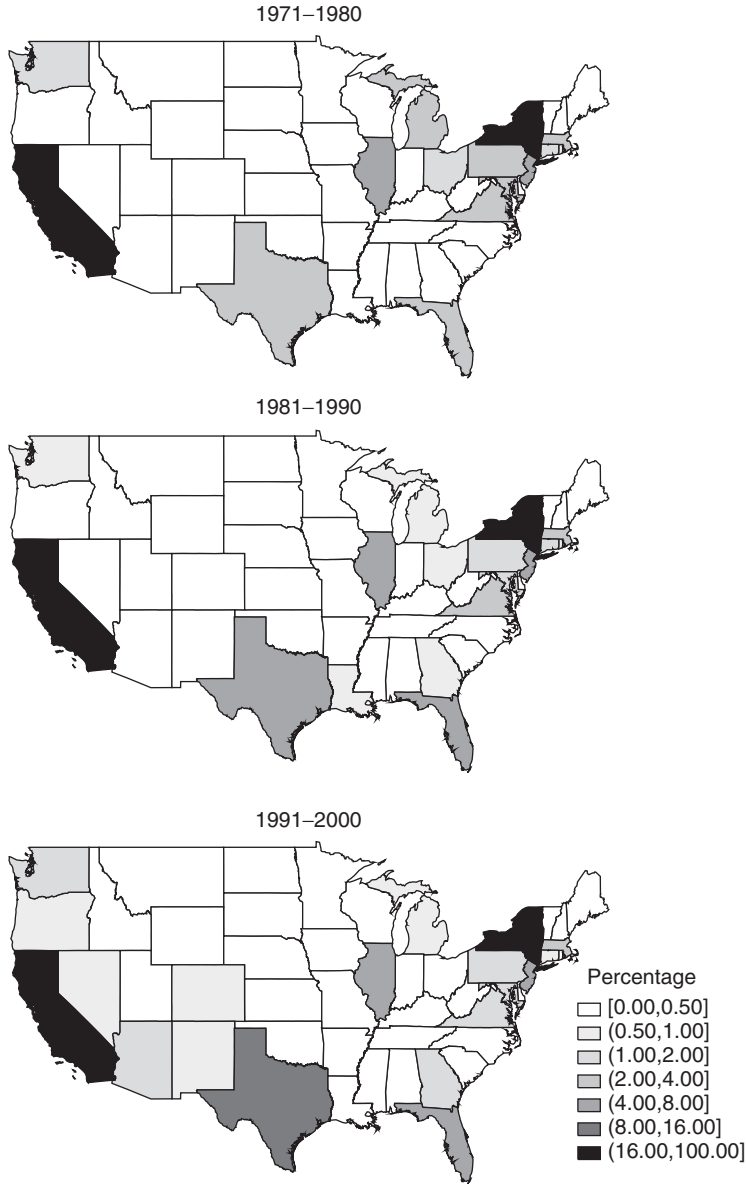

Fig. 16. Locations of Relatives of Legalized Permanent Residents.
Note: Map Shows Share of Cumulative Flow in Decade Locating in Each State.
Source: Author's Tabulations of INS Data.

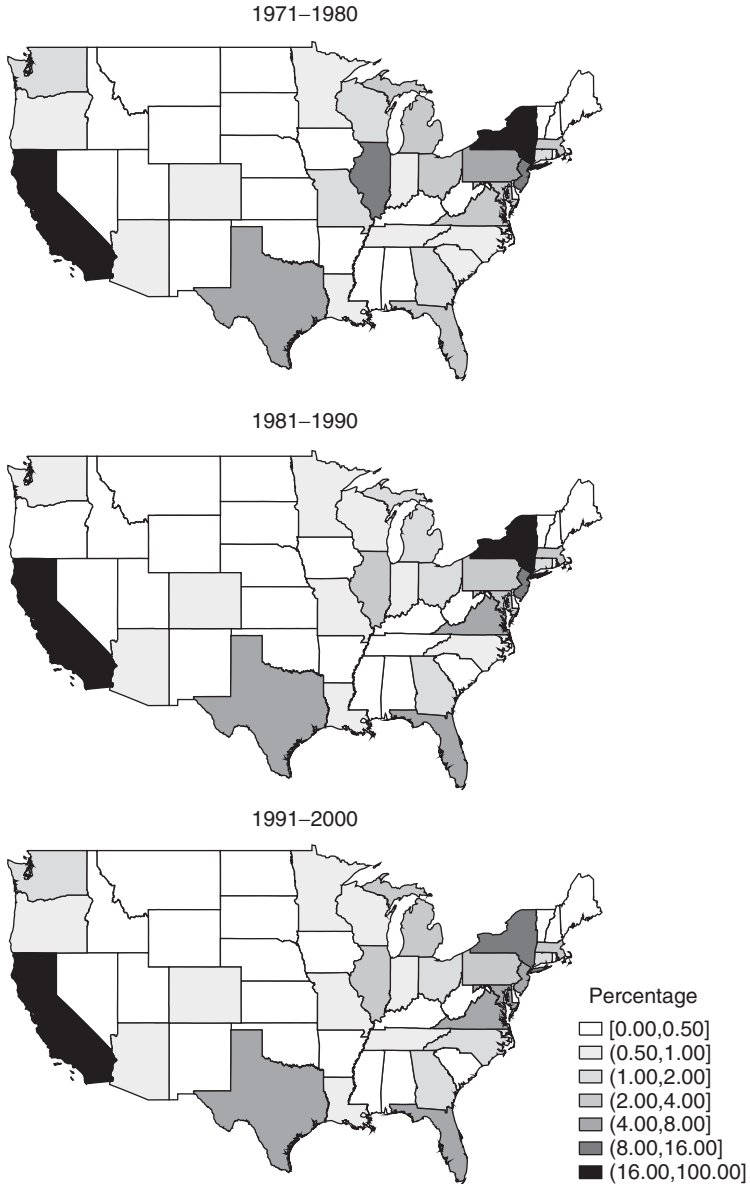

Fig. 17. Locations of Employment Visa Immigrants.
Note: Map Shows Share of Cumulative Flow in Decade Locating in Each State.
Source: Author's Tabulations of INS Data.

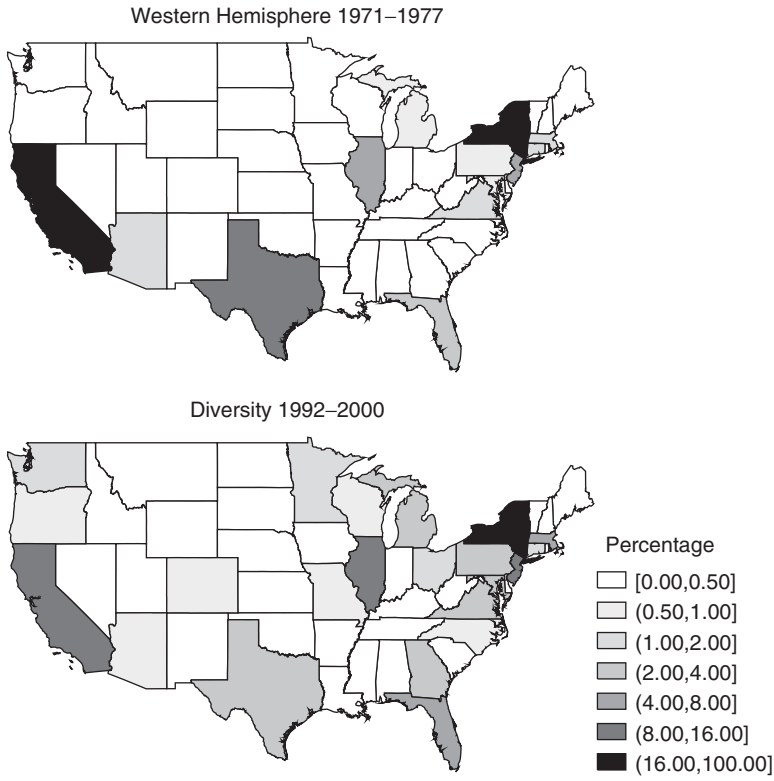

Fig. 18. Locations of Western Hemisphere and Diversity Immigrants.
Note: Map Shows Share of Cumulative Flow in Decade Locating in Each State.
Source: Author's Tabulations of INS Data.

citizens. Refugees were somewhat more likely to locate in the Southeast in 1991–2000 than in 1971–1980, and were somewhat less likely to locate in Louisiana and Arkansas. Washington and Oregon also became more popular, while New York was less so in the middle decade than in the first and last. Over the 30-year period of the data, however, the changes in the geographic distributions of refugees have been relatively minor.

Taken as a whole, these figures indicate that there are substantial differences in location choices among immigrants in different admission categories and, to some extent, over time within admission category. This is due, in part, to the different countries of origin and varying skills of immigrants in the various admission categories.

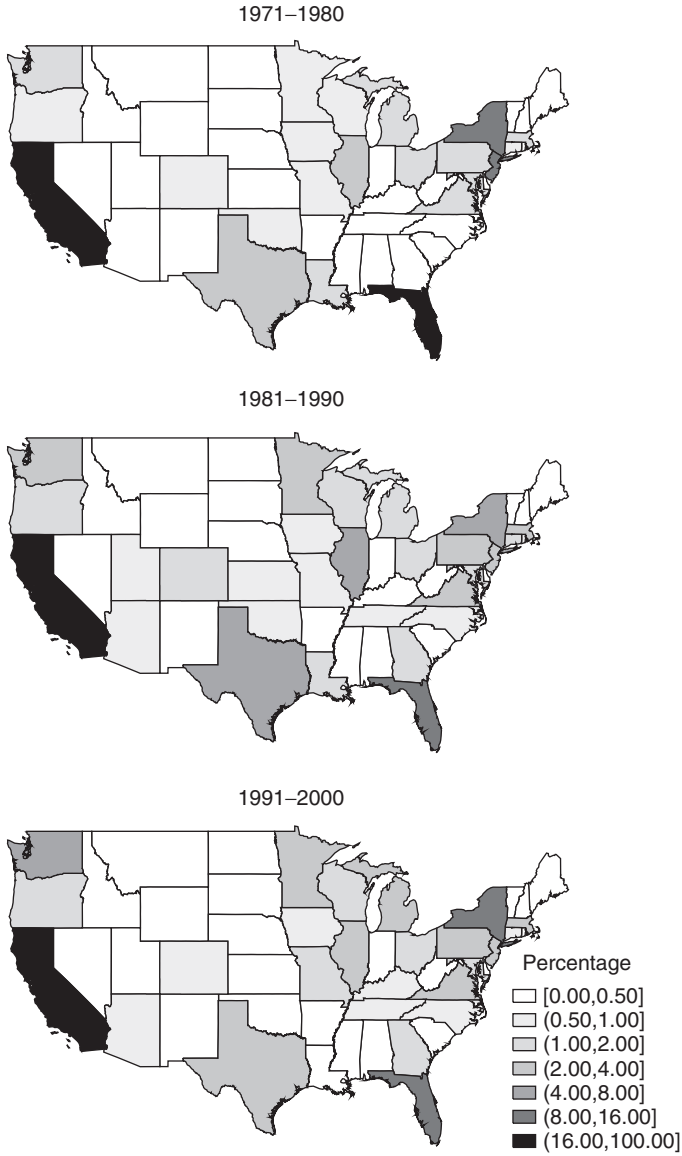

Fig. 19. Locations of Refugees.
Note: Map Shows Share of Cumulative Flow in Decade Locating in Each State.
Source: Author's Tabulations of INS Data.

5. GREEN CARDS AND THE SKILLS OF IMMIGRANTS

While concentrations of individuals from their country of birth are likely to be an important determinant of where an immigrant decides to live, Bartel (1989) has noted that the more highly educated foreign-born tend to be more geographically disperse than those with lower levels of education. Skills and their interaction with labor market conditions may also play an important role in determining location choice. The INS data unfortunately do not contain information on educational attainment. They do, however, contain information on occupation, which should be directly related to the human capital that immigrants bring to the U.S.

Occupation in the INS data is self-reported. For primary employment visa immigrants, the recorded occupations are those of the immigrants' jobs in the U.S. All other immigrants are free to record whatever occupation they want. From the responses in the INS data it is impossible to tell whether the recorded occupation is the one they will or want to do in the U.S. or one that they performed in their home country. The responses to the occupation question are therefore likely to be better used as a general measure of human capital rather than a strong indication (except for primary employment-based immigrants) of what occupation the immigrant will hold in the U.S. The coding used by the INS was also, until recently, fairly idiosyncratic. Occupation codes vary across time in the INS data and between the INS and IPUMS data. The "lowest common denominator" for the occupation codes was those used in the INS data between 1983 and 1998. This yields a variable with 18 categories after dropping students and combining a few occupations with small cell sizes.[16]

I combine the data on occupation along with information on the immigrant's region of origin and demographic information to generate a prediction of the skills that the immigrant brings to the U.S. Pooling data on the foreign-born from the 1980 and 1990 Censuses in which both occupation and demographic information as well as educational attainment are observed, I estimated separate ordered logit regressions for men and women with three broad education categories as the dependent variable: less than 12 years (low skill), 12–15 years (medium skill) and 16 or more years of education (high skill). In addition to indicator variables for occupation, the regressions included indicators for each of the 13 region of origin groups, an indicator for being married, and a quadratic in age. To abstract from schooling and retirement issues, I dropped individuals who were in school as

well as those who were less than 25 years old or greater than 60 years old. The coefficients from these models were then used to create a predicted probability that the individuals in the INS data were in each of the three skill categories. More information on the results of the ordered logit regressions and the prediction procedure can be found in the Data Appendix.

To evaluate the changing skill composition of immigrants within admission categories, I plot the distribution across the three skill groups in Figs. 20–25. For each year, I summed the predicted probability of being in each of the three skill groups across individuals; i.e. each individual contributed some fraction to each of the three skill group shares. This procedure amounts to assigning fixed weights to occupation, region-of-origin, age, and marital status based on the coefficients of the mens' and womens' ordered logit regressions. Changes over time in the imputed skill distribution of immigrants in each admission category derive completely from changes in the occupational, region-of-origin, age, and marital status distributions.

For family of U.S. citizens, shown in Figs. 20 (immediate family) and 21 (other relatives), the distribution across skill groups was relatively constant. Roughly 22 percent of both immediate and other relatives of U.S. citizens were assigned to the lowest skill category, although this declined to 15 percent between 1998 and 2000. About 30 percent of immediate family and 35 percent of other family were assigned to the highest skill category (college graduates), although this increased for immediate relatives, ending at 37 percent in 2000.

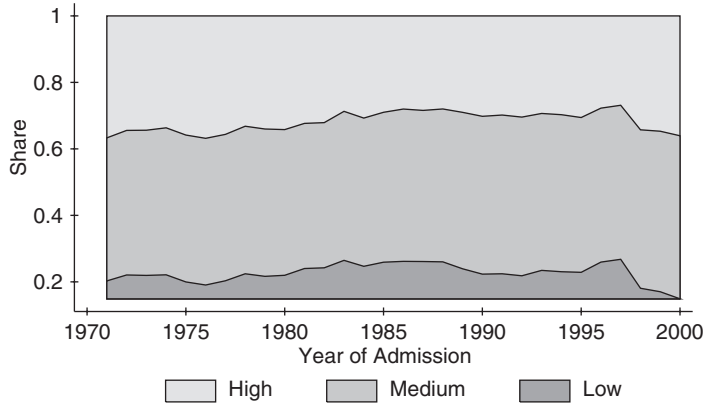

Fig. 20. Share of Skill Group Relatives of U.S. Citizens, Non-Quota.
Note: 48 Contiguous States.
Source: Author's Tabulations of INS Data.

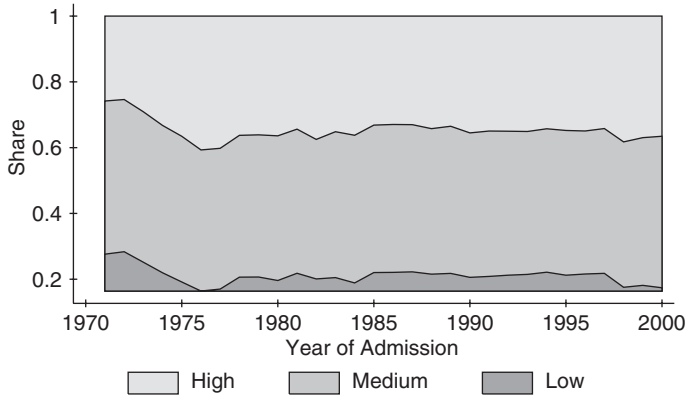

Fig. 21. Share by Skill Group of Relatives of U.S. Citizens, Quota.
Note: 48 Contiguous States.
Source: Author's Tabulations of INS Data.

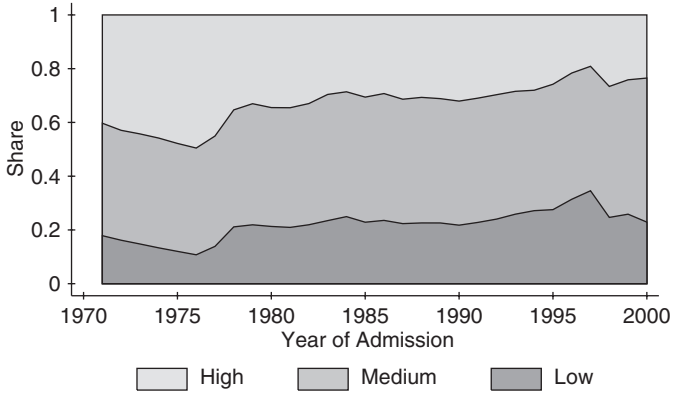

Fig. 22. Share by Skill Group of Relatives of Legal Permanent Residents.
Note: 48 Contiguous States.
Source: Author's Tabulations of INS Data.

The average skill of individuals who entered as family of legal permanent residents (Fig. 22) declined continuously after 1976. In 1971, 40 percent of the families of legal permanent residents were imputed to be in the highest skill category while this was only 23 percent in 2000. Similarly, in the mid 1970s,

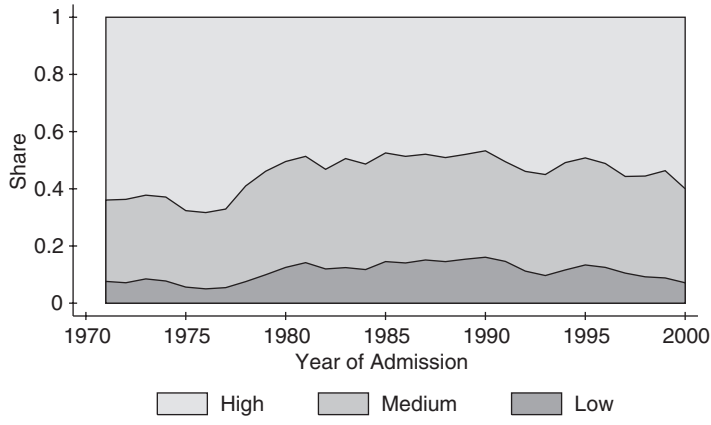

Fig. 23. Share by Skill Group of Employment Immigrants.
Note: 48 Contiguous States.
Source: Author's Tabulations of INS Data.

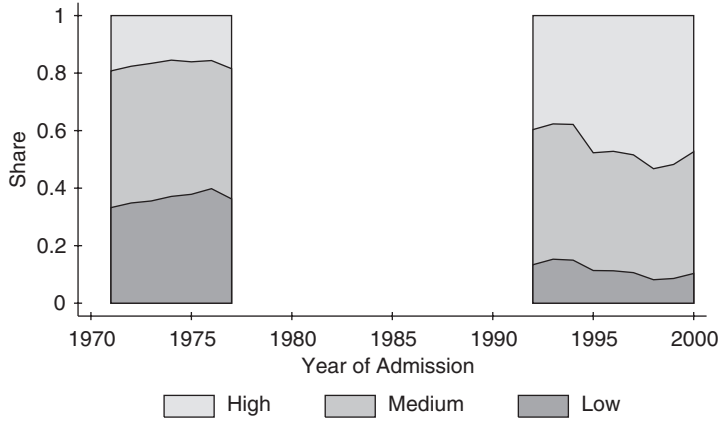

Fig. 24. Share by Skill Group of Western Hemisphere Immigrants, 1971–1977, and Diversity Immigrants, 1992–2000.
Note: 48 Contiguous States.
Source: Author's Tabulations of INS Data.

only about 12 percent were assigned to the lowest skill category, while 35 percent were in 1997, falling somewhat to 23 percent in 2000.

Since most primary employment visa immigrants are required to be well-educated or have substantial work experience, it is not surprising that Fig. 23

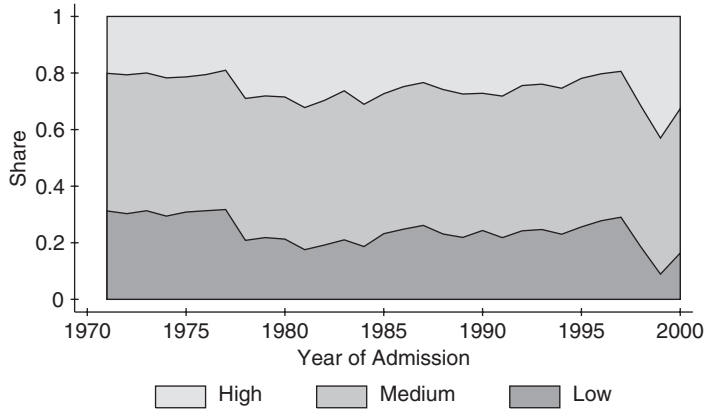

Fig. 25. Share by Skill Group of Refugees and Asylees.
Note: 48 Contiguous States.
Source: Author's Tabulations of INS Data.

shows that a much larger share of employment-based immigrants were highly skilled than in the family reunification admission categories. Over the entire period, roughly 50–60 percent of employment-based green card holders were in the highest skill group while another 30–40 percent were in the middle skill group and between 5 and 15 percent were in the lowest skill category. The average skill level declined somewhat in the late 1980s, rebounding afterwards. Diversity immigrants are also required to have at least a high-school diploma, and the skill distribution in Fig. 24 reflects this. Western Hemisphere immigrants generally had lower skills than the other admission categories, with less than 20 percent in the high-skill category.

The skill level of refugees, shown in Fig. 25, improved somewhat after the 1970s, when roughly one-third were in the low-skill group, while more recently this share has been closer to 20 percent. Also, in the late 1980s the share allocated to the highest skill group increased substantially, reflecting, perhaps, the shift toward Eastern Europeans.

While these skill measures are relatively coarse, they do roughly capture the administrative requirements of the various admission categories. Given the differing skills and region of origin across the various admission categories, we might expect that different groups will respond differently to changing economic and socio-demographic conditions when deciding where to locate in the U.S.

6. ADMISSION CATEGORIES AND DETERMINANTS OF IMMIGRANTS' LOCATION CHOICE

What determines where immigrants decide to live? Proximity to kin and country-specific networks surely play an important role. While the past evidence is mixed, it is also almost certainly true that labor market conditions affect where immigrants decide to live, even for family-reunification entrants. In this section, I present regression results that attempt to resolve the extent to which various socio-demographic and labor market factors influence where immigrants live.

I employ a standard discrete choice model for the analysis. This framework is similar to those employed by Bartel (1989), Jaeger (2000), and Bauer et al. (2002). I assume that immigrants have an additive stochastic utility function of the form

$$U_{ij} = \mathbf{L}_j\Theta + \mathbf{X}_{ij}\Pi + \varepsilon_{ij} \tag{2}$$

where $\mathbf{L}_j$ is a vector of state characteristics (including, potentially, state fixed effects) and $\mathbf{X}_{ij}$ a vector of interactions between state and individual characteristics. I assume that immigrants choose the location that maximizes their expected utility. If the stochastic term $\varepsilon_{ij} \sim$ i.i.d. Weibull, the parameters of the model can be estimated using a conditional logit model (McFadden, 1984). The probability of individual i choosing to live in state l is then

$$P(y_i = l) = \frac{\exp(\mathbf{L}_j\Theta + \mathbf{X}_{ij}\Pi)}{\sum_{j=1}^{48} \exp(\mathbf{L}_j\Theta + \mathbf{X}_{ij}\Pi)} \tag{3}$$

where y_i is individual i's location choice and there are 48 states in the choice set for all immigrant groups. This analysis requires estimation using $48 \times N$ observations, where N is the number of individuals in the data. The marginal effect of a change in some characteristic, z, of a state, l, on the probability that an immigrant will choose to live in that state is just the derivative of (3), i.e.

$$\frac{\partial P(y_i = l)}{\partial z_l} = \big[P(y_i = l)\big(1 - P(y_i = l)\big)\big]\theta_z \tag{4}$$

While the effect of any covariate will vary with l (because the share of immigrants choosing to live in any given state, $P(y_i = l)$, is different),

I present "average" effects of z on $P(y_i = l)$, i.e.

$$\frac{\partial \hat{P}(y_i = l)}{\partial z_l} = \left[(1/48) - \left(1 - (1/48)\right)\right]\hat{\theta}_z \tag{5}$$

These are just a rescaling of the underlying conditional logit coefficients so that they can be interpreted as marginal effects on a probability.

The variables in **L** and **X** are designed to capture a variety of state characteristics that possibly affect both the pecuniary and non-pecuniary aspects of immigrants' utility. I include two variables to measure labor market conditions: the unemployment rate for all workers aged 25–60 and the immigrant's expected log wage. The unemployment rate for all workers (both natives and immigrants) is used as a general indicator of labor demand in the state. The expected wage is calculated by taking a weighted average of log median wages for all workers (both immigrants and natives) aged 25–60 in each of the skill categories discussed above, calculated from the IPUMS data, with the weights being $\hat{P}(S = k)_i$, derived from the results of the conditional logit estimation and the individual characteristics of the immigrants in the INS data. I use median rather than mean wages to avoid issues of different nominal topcode values across Censuses. The choice of using the wages of all workers rather than just those of immigrants is motivated by the small or non-existent samples of immigrants in some of the less populous states in some skill categories, particularly in 1970 and 1980. The median log wage is calculated separately for men and women in each state and year. Thus, the "expected" wage varies by state, year, and the characteristics of the immigrant.

While it might be possible to use occupation-specific wages (although sample size reasons would prevent one from using immigrant-specific wages within occupations in states with few immigrants), the measurement of occupation in the INS data makes this somewhat questionable. The INS occupation data can refer either to the immigrant's occupation in the U.S. or in their home country. With the exception of primary employment immigrants, whose reported occupation is from their job in the U.S., however, it is impossible to tell whether the reported occupation refers to the immigrant's job in their home country, an actual job in the U.S. or merely in what occupation the immigrant thinks they will work in the U.S. In addition, given that home country occupation-specific skills may not be immediately transferable to the U.S., using occupation-specific wages might substantially mismeasure the wages available to an immigrant upon arrival. Using "expected" wages probabilitistically weights the log median wages

from all the three skill categories. So, for example, an unmarried 28-year-old female Russian engineer entering the U.S. may not work as an engineer, or even in a high-skill job, upon arrival. Given the experiences of past immigrants, she faces some probability of working in a high-skilled job, and a smaller probability of working in a lower-skilled job. The "expected" wage will encompass these opportunities (or lack thereof) better than using the occupation-specific wage.

Past research (e.g. Bartel, 1989; Dunlevey, 1991; Jaeger, 2000; Bauer et al., 2002) has clearly shown that immigrants are drawn to locations with concentrations of immigrants who are like them. This may be due to network externalities, herd effects, linguistic considerations, or some combination of all three. For sample size reasons in the IPUMS (particularly in low-immigrant states in 1970 and 1980), I measure immigrant concentrations using region of birth rather than country of birth. These concentrations enter the regressions in three ways. First, I include the share of the immigrant's region of birth group in the state population. This controls for the relative size of the potential network and, to some extent, for the size of linguistic community available to the immigrant. Second, as a measure of the absolute size of the population of an immigrant group in a state, I include the share of the total population in the U.S. of the immigrant's region of birth that lives in the state.[17] And, finally, I include the share of the state's population that was born outside of the U.S. Immigrants may prefer, for cultural and economic reasons, to live in areas with more "international" neighbors, without regard to their country of origin. For instance, these places may be more tolerant of immigrants in general or they may offer more services to immigrant children in schools. This variable is most similar to the concentration variables employed by both Bartel (1989) and Zavodny (1999).

Bauer et al. (2002) argued that there are diminishing returns to the size of immigrant networks and so their "magnetic" effect should also show diminishing or even declining returns. I therefore include both a linear and quadratic term for all three of the immigrant concentration measures. I also include the natural log of the state's population and (in models without state fixed effects) the natural log of the land area of the state, which together control for the population density.

Many immigrants still maintain ties with their "home" country even after receiving a green card. To proxy for costs of visiting kin (or perhaps permanently returning home), I include a quadratic in the straight-line distance from the most populous city in the immigrant's country of birth to the geographic center of the state.[18] In addition, Cragg and Kahn (1997) show that amenities like climate are important determinants of migration

propensities. I include in the models a quadratic in the absolute difference between the average temperature in the state and the immigrant's country of birth and a quadratic in the absolute difference between the average annual precipitation in the state and the immigrant's country of birth.[19] While past research (Bartel, 1989; Zavodny, 1997; Zavodny, 1999; Kaushal, 2005) has examined how social safety net programs like general assistance or welfare affect immigrants location choices, the evidence suggests that state-level variation in these program has no influence on where immigrants choose to live. I therefore do not include these measures in the analysis.

I first estimate models where I pool the four samples from the INS data matched to IPUMS data from 1970, 1980, 1990, and 2000 and include state fixed effects. These fixed effects control for time-invariant characteristics of the state, e.g. the land area of the state, and the "gateway" effects of places like California and New York, which naturally attract immigrants because they are on the coasts. In addition, fixed effects capture the "initial" endowment of immigrants that determined where past migrants chose to live. Identification with state fixed effects comes from within-state variation over time in the covariates. Entries in the tables are marginal effects of a change in the characteristic of state j on the probability that an immigrant will locate in state j, evaluated at the "average" probability of location (i.e. $1/48 = .02083\bar{3}$), per Eq. (5). Recall that the population used for the estimation is limited to individuals who were 25–60 years old at the time that they received their green card and who, except for refugees, are newly arrived in the U.S. Given the extremely large sample sizes in these regressions it is prudent to be conservative with the nominal level of significance when conducting hypothesis tests. I will use a nominal one percent level when discussing statistical significance, giving a nominal non-rejection region for the z-ratios of $(-2.5758, 2.5758)$ for a two-tailed test that the parameter in question is equal to zero.

Table 1 presents results of estimating (3) on the population of "primary" male immigrants. Focusing first on labor market conditions, I find that they have mixed effects on the location propensities of family-reunification immigrants. For all three family-reunification groups, the unemployment rate is not statistically significant at the one percent level, while expected log wages have a strong positive effect for immediate relatives of U.S. citizens and a marginally statistically significant and positive effect for relatives of legal permanent residents. For other relatives of U.S. citizens, higher wages *negatively* affect the probability of locating in a state.

For employment-based immigrants, higher unemployment rates have a negative and statistically significant effect on location probabilities,

Table 1. Determinants of Location Choice: Men Pooled between 1971 and 2000 with State Fixed Effects.

Variable	Visa Category				
	Relatives of U.S. citizens		Relatives of LPR	Employment	Refugees (1971–1990)
	Non-quota	Quota			
Expected log(wage)	.0256	−.0180	.0121	.0232	.0648
	(8.19)	(4.77)	(2.86)	(4.34)	(11.51)
Unemployment rate	−.0003	.0004	.0008	−.0017	.0018
(percentage points)	(1.77)	(1.68)	(2.45)	(4.74)	(4.36)
Region of birth as percent of	.0066	.0110	.0059	.0017	.0210
state population	(22.26)	(26.44)	(13.00)	(3.03)	(17.29)
Region of birth as percent of	−.0305	−.0606	−.0332	−.0069	−.0533
state population sq. ÷ 100	(17.07)	(21.54)	(11.19)	(1.66)	(2.83)
Percent of region of birth	.0014	.0007	.0003	.0007	.0030
population in state	(24.43)	(8.52)	(3.95)	(6.33)	(15.54)
Percent of region of birth	−.0021	−.0014	.0001	−.0005	−.0062
pop. in state sq. ÷ 100	(25.33)	(11.81)	(1.24)	(2.94)	(20.76)
Foreign-born percent of state	−.0013	.0004	.0011	.0030	−.0044
population	(5.89)	(1.53)	(3.17)	(9.45)	(5.22)
Foreign-born percent of state	.0022	−.0028	−.0048	−.0074	.0063
pop. sq. ÷ 100	(4.38)	(4.86)	(6.29)	(10.03)	(3.30)
Log(state population)	.0162	.0199	.0301	.0363	.0005
	(10.09)	(9.64)	(11.54)	(12.98)	(0.08)
Distance from country of	−.0162	−.0263	−.0347	−.0080	−.0077
birth (1,000 miles)	(20.72)	(24.42)	(29.12)	(6.52)	(2.48)
Distance from country of	.0660	.1329	.1948	.0166	.0446
birth sq. ÷ 100	(10.37)	(16.04)	(20.92)	(1.71)	(2.08)
|State−country of birth	.0009	.0000	.0004	−.0005	−.0003
temperature|(°F)	(13.94)	(0.40)	(4.69)	(5.05)	(2.31)
|State−country of birth	−.0016	.0008	.0001	.0024	.0005
temperature sq.| ÷ 100	(8.24)	(3.82)	(0.29)	(8.51)	(1.67)
|State−country of birth	−.0004	−.0003	−.0004	−.0003	−.0003
precipitation|(inches)	(15.32)	(10.92)	(13.94)	(8.20)	(6.32)
|State−country of birth	.0003	.0002	.0005	.0003	.0001
precipitation sq.| ÷ 100	(9.32)	(6.68)	(11.14)	(4.58)	(1.26)
Pseudo-R^2	.355	.397	.479	.307	.352
Number of individuals	30,419	25,384	24,597	11,755	16,267
Number of observations	1,460,112	1,218,432	1,180,656	564,240	780,816

Note: Estimated via conditional logit with robust standard errors. Choice set is 48 contiguous U.S. states; Own-state marginal effects, *z*-ratios in parentheses.
Source: Author's calculations using INS and IPUMS data.

while wages have a positive and statistically significant effect. This suggests that employment immigrants locate in places with better labor markets, *ceteris paribus*. Because employment immigrants must normally have a job and be sponsored by a firm to enter the U.S., interpreting these coefficients as purely causal effects of the labor market on the immigrants' choices alone is somewhat problematic. The estimate also reflects actions by *firms* in high-wage, low-employment states. When labor markets are tight, firms will be more likely to look outside of the U.S. for labor. That the region-of-birth variables are also statistically significant suggests that when firms decide to look outside of the U.S., they may look for immigrants who are similar to those that already work for the firm. Government or private agencies often resettle refugees, so it is somewhat surprising that expected wages are even more important in determining location for them than for employment immigrants. For refugees, the unemployment rate is also perversely signed and statistically significant.

Broadly speaking, the results confirm the previous literature that finds that concentrations of similar immigrants have a magnetic effect on immigrants' location choices. This is true for all family reunification groups with two of the three measures of immigrant concentrations, i.e. the percentage of the state that is from the immigrant's region of birth, and percent of the total U.S. population from the immigrant's region of birth that is living in the state. Of these two, the former is much more important. This suggests that immigrants would prefer a smaller state in which individuals from their region of birth make up a larger percentage even if there are other states that have larger absolute numbers of individuals born in the same region as they were. Immigrant concentrations are more important for refugees than for either employment or family reunification immigrants. The magnitude of the third concentration variable, the percent of foreign born in the state population, is much smaller than the other concentration variables, except for employment-based immigrants. This suggests that there are areas of the country that are "immigrant-hiring" and those that are not. Lastly, given that the "Big 6" are populous states, it is not surprising that I estimate that immigrants are more likely to locate in states with larger populations. This is likely due to immigrants' preferences for urban areas, where it is easier for them to take advantage of existing employment and linguistic networks. The effect of population is strongest for employment immigrants, followed by relatives of legal permanent residents, and family of U.S. citizens. Population size does not affect the location probabilities of refugees.

The geographic and weather variables have differing effects across the admission categories. Distance has a negative effect for all groups (even though the coefficients on the quadratic terms are positive, over the relevant range the net effect of both variables is negative), but this is largest for relatives of legal permanent residents and smaller and statistically insignificant for refugees. The weather variables are of little quantitative importance and are often statistically not significant.

I repeat the same estimation for immigrant women in Table 2. Here the labor market effects are sometimes perversely signed, statistically insignificant, or both. Perhaps most puzzling is the negative and relatively large coefficients on expected wages for employment immigrants. Even though the population used for the estimation is primary immigrants, the location choices of female immigrants may be more likely to be a joint decision or affected more by their spouse's labor market possibilities than those of male immigrants.[20] Only for refugees are the coefficients on the labor market variables statistically significant with the expected signs. As with men, the share of the state's population that comes from the immigrant's region of birth is the most important of the three immigrant concentration variables. Distance from the "home" country is a more important determinant of location for family of legal permanent residents than for the other admission categories.

In general, across all 10 groups for men and women, I find confirmation of Bauer et al.'s (2002) results that the magnetic effects of immigrant concentrations have diminishing effects, although the coefficients on the quadratic terms are generally not large enough to lead to an inverted U-shape over the relevant ranges of the immigrant concentration variables.

In Tables 3–6, I present estimates of the same model, with the addition of the natural logarithm of the state's land area as a regressor and without state fixed effects, for immediate family of U.S. citizens, other family of U.S. citizens, family of legal permanent residents, and employment immigrants, respectively. In each table, I estimate the models separately for each of the four years under examination (1971, 1980, 1990, and 2000) and for men and women. Unlike the models in Tables 1 and 2, these are identified by both cross-state and within-state variation in the regressors. The within-state variation comes from having immigrants from different regions- and countries-of-birth as well as different occupations. In general, I find that the coefficients for men and women are remarkably similar within year and admission category.

Taking the results in Table 3–6 as a whole, it appears that labor market conditions do significantly affect location choices across all four groups, with immigrants choosing higher-wage, lower-unemployment areas. Labor market conditions are most consistently important for employment-based

Table 2. Determinants of Location Choice: Women Pooled between 1971 and 2000 with State Fixed Effects.

Variable	Visa Category				
	Relatives of U.S. citizens		Relatives of LPR	Employment	Refugees (1971–1990)
	Non-quota	Quota			
Expected log(wage)	−.0005	−.0269	.0357	−.0664	.0068
	(0.17)	(6.57)	(9.18)	(8.21)	(6.76)
Unemployment rate	−.0006	.0013	−.0003	−.0004	−.0030
(percentage points)	(3.26)	(4.63)	(0.97)	(0.58)	(6.12)
Region of birth as percent of	.0060	.0098	.0048	−.0048	.0022
state population	(27.15)	(23.20)	(14.80)	(5.98)	(1.11)
Region of birth as percent of	−.0257	−.0544	−.0215	.0503	.1772
state population sq. ÷ 100	(20.03)	(18.56)	(11.94)	(8.29)	(3.87)
Percent of region of birth	.0013	.0008	.0009	.0011	.0058
population in state	(29.12)	(9.68)	(14.01)	(8.25)	(28.09)
Percent of region of birth	−.0017	−.0014	−.0007	−.0008	−.0099
pop. in state sq. ÷ 100	(25.88)	(11.42)	(6.96)	(3.56)	(28.19)
Foreign-born percent of state	.0004	.0014	.0005	.0044	−.0053
population	(2.85)	(4.93)	(1.69)	(7.69)	(7.48)
Foreign-born percent of state	−.0009	−.0056	−.0026	−.0118	.0090
pop. sq. ÷ 100	(2.55)	(9.33)	(4.25)	(8.98)	(4.81)
Log(state population)	.0057	.0201	.0231	.0423	.0554
	(4.92)	(9.05)	(10.91)	(8.84)	(9.45)
Distance from country of	−.0122	−.0268	−.0321	−.0065	.0087
birth (1,000 miles)	(19.92)	(24.44)	(30.24)	(3.08)	(6.53)
Distance from country of	.0497	.1365	.1737	−.0048	−.0362
birth sq. ÷ 100	(9.77)	(15.86)	(20.69)	(0.26)	(3.36)
|State−country of birth	.0003	.0001	.0002	−.0008	−.0003
temperature|(°F)	(7.39)	(0.90)	(2.15)	(5.51)	(2.28)
|State−country of birth	−.0003	.0008	.0005	.0044	.0002
temperature sq.| ÷ 100	(1.95)	(3.40)	(2.39)	(9.07)	(0.47)
|State−country of birth	−.0004	−.0003	−.0004	−.0004	−.0001
precipitation|(inches)	(19.52)	(9.66)	(14.92)	(7.22)	(2.15)
|State−country of birth	.0003	.0002	.0004	.0002	.0002
precipitation sq.| ÷ 100	(11.95)	(4.33)	(9.42)	(3.36)	(1.26)
Pseudo-R^2	.312	.400	.452	.406	.353
Number of individuals	54,273	24,597	31,299	6,921	9,250
Number of observations	2,605,104	1,180,656	1,502,352	332,208	444,000

Note: Estimated via conditional logit with robust standard errors. Choice set is 48 contiguous U.S. states; Own-state marginal effects, *z*-ratios in parentheses.
Source: Author's calculations using INS and IPUMS data.

Table 3. Determinants of Location Choice: Family of U.S. Citizens (Non-Quota).

Variable	Men				Women			
	1971	1980	1990	2000	1971	1980	1990	2000
Expected log(wage)	.0275	.0385	.0426	.0253	.0011	.0118	.0254	.0259
	(4.57)	(9.37)	(12.89)	(5.12)	(0.27)	(2.73)	(6.08)	(6.79)
Unemployment rate	−.0027	−.0009	−.0009	−.0002	−.0015	−.0011	.0001	.0003
(percentage points)	(4.33)	(3.77)	(3.07)	(0.31)	(4.11)	(4.39)	(0.38)	(0.57)
Region of birth as percent	.0280	.0245	.0144	.0096	.0246	.0213	.0112	.0073
of state population	(12.93)	(21.59)	(25.31)	(14.82)	(14.49)	(19.23)	(16.73)	(17.26)
Region of birth as percent	−.6314	−.3147	−.1060	−.0446	−.5253	−.2528	−.0766	−.0277
of state pop. sq. ÷ 100	(10.34)	(16.35)	(22.11)	(12.80)	(10.83)	(14.02)	(14.13)	(12.10)
Percent of region of birth	.0010	−.0003	−.0003	.0002	.0005	−.0002	.0003	.0009
population in state	(7.12)	(2.37)	(3.12)	(0.97)	(4.33)	(1.45)	(2.25)	(7.45)
Percent of region of birth	−.0014	.0007	.0008	.0003	−.0002	.0005	.0000	−.0012
pop. in state sq. ÷ 100	(6.30)	(2.63)	(4.39)	(0.77)	(1.31)	(2.27)	(0.11)	(5.10)
Foreign-born percent of	.0065	.0037	.0032	.0019	.0033	.0028	.0024	.0019
state population	(10.02)	(9.24)	(17.80)	(8.32)	(8.45)	(9.05)	(13.10)	(12.91)
Foreign-born percent of	−.0321	−.0092	−.0063	−.0029	−.0150	−.0093	−.0068	−.0043
state pop. sq. ÷ 100	(7.44)	(4.03)	(8.44)	(3.55)	(5.73)	(5.12)	(8.61)	(7.98)
Log(state population)	.0146	.0174	.0156	.0165	.0153	.0192	.0158	.0156
	(19.75)	(28.18)	(29.13)	(20.87)	(31.76)	(37.28)	(29.62)	(31.63)
Distance from country of	−.0159	−.0113	−.0160	−.0131	−.0144	−.0096	−.0123	−.0118
birth (1,000 miles)	(8.21)	(7.79)	(12.77)	(6.74)	(9.34)	(7.12)	(8.78)	(9.44)
Distance from country of	.0598	.0360	.0727	.0573	.0692	.0369	.0644	.0559
birth sq. ÷ 100	(3.31)	(2.88)	(7.31)	(3.73)	(4.94)	(3.21)	(5.67)	(5.62)
Log(state land area)	.0065	.0030	.0032	.0003	.0037	.0011	.0022	−.0002
	(11.40)	(8.71)	(8.32)	(0.66)	(9.62)	(3.69)	(6.06)	(0.75)
|State−country of birth	.0011	.0008	.0003	.0003	.0006	.0006	−.0001	.0001
temperature|(°F)	(6.03)	(6.17)	(3.27)	(1.95)	(5.31)	(6.68)	(1.00)	(0.68)
|State−country of birth	−.0017	−.0013	.0004	.0001	−.0013	−.0013	.0010	.0002
temperature sq.| ÷ 100	(3.24)	(3.41)	(1.23)	(0.28)	(3.88)	(4.81)	(3.62)	(0.62)
|State−country of birth	−.0005	−.0006	−.0004	−.0001	−.0003	−.0005	−.0003	−.0002
precipitation|(inches)	(6.92)	(10.51)	(9.92)	(1.67)	(6.33)	(10.15)	(7.12)	(5.46)
|State−country of birth	.0005	.0005	.0003	−.0002	.0003	.0006	.0002	−.0000
precipitation sq.| ÷ 100	(4.22)	(6.24)	(5.88)	(2.04)	(4.12)	(8.80)	(3.95)	(0.53)
Pseudo-R^2	.402	.358	.356	.324	.262	.303	.327	.326
Number of individuals	4,787	8,258	11,745	5,629	8,020	11,460	10,367	10,421
Number of observations	229,776	396,384	563,760	270,192	384,960	550,080	497,616	500,208

Note: Estimated via conditional logit with robust standard errors. Choice set is 48 contiguous U.S. states; Own-state marginal effects, *z*-ratios in parentheses.
Source: Author's calculations using INS and IPUMS data.

immigrants, where the unemployment rate, in particular, has a much larger effect than for other groups. The magnitude of the coefficients on the labor market variables, while changing somewhat from decade to decade, are fairly constant over time within admission category. Given these results it is

Table 4. Determinants of Location Choice: Family of U.S. Citizens (Quota).

Variable	Men				Women			
	1971	1980	1990	2000	1971	1980	1990	2000
Expected log(wage)	.0557	.0307	.0605	.0287	.0754	.0543	.0752	.0546
	(6.13)	(7.96)	(17.18)	(4.99)	(8.28)	(10.14)	(12.35)	(7.71)
Unemployment rate	−.0006	−.0009	−.0007	.0034	−.0016	−.0002	.0014	.0033
(percentage points)	(0.78)	(3.33)	(2.24)	(4.38)	(2.35)	(0.58)	(2.61)	(3.54)
Region of birth as percent	.0281	.0317	.0158	.0104	.0269	.0285	.0143	.0097
of state population	(10.59)	(24.66)	(21.10)	(11.53)	(10.16)	(21.97)	(14.47)	(10.69)
Region of birth as percent	−.4042	−.4242	−.1040	−.0499	−.4066	−.3784	−.0999	−.0424
of state pop. sq. ÷ 100	(7.65)	(22.66)	(18.28)	(10.25)	(7.74)	(19.75)	(13.08)	(8.57)
Percent of region of birth	.0023	−.0014	−.0001	−.0001	.0032	−.0012	.0000	−.0000
population in state	(6.55)	(8.53)	(0.63)	(0.26)	(8.44)	(7.50)	(0.23)	(0.15)
Percent of region of birth	−.0035	.0021	.0001	.0004	−.0056	.0019	.0000	.0001
pop. in state sq. ÷ 100	(4.48)	(8.15)	(0.50)	(0.93)	(6.91)	(7.09)	(0.08)	(0.30)
Foreign-born percent of	.0067	.0032	.0039	.0028	.0079	.0032	.0029	.0020
state population	(6.54)	(8.06)	(19.87)	(10.23)	(7.58)	(7.59)	(10.88)	(7.99)
Foreign-born percent of	−.0494	−.0009	−.0115	−.0059	−.0634	−.0002	−.0096	−.0048
state pop. sq. ÷ 100	(7.06)	(0.37)	(13.22)	(5.92)	(9.32)	(0.07)	(8.35)	(4.96)
Log(state population)	.0182	.0261	.0220	.0236	.0148	.0235	.0229	.0260
	(14.07)	(33.92)	(33.20)	(22.59)	(11.71)	(28.26)	(25.61)	(25.81)
Distance from country of	.0102	−.0312	−.0225	−.0271	−.0023	−.0290	−.0272	−.0271
birth (1,000 miles)	(2.23)	(18.89)	(14.70)	(11.87)	(0.55)	(17.70)	(13.05)	(12.54)
Distance from country of	−.0761	.1898	.1144	.1414	.0103	.1801	.1478	.1226
birth sq. ÷ 100	(2.04)	(14.89)	(9.95)	(8.10)	(0.30)	(13.76)	(9.38)	(7.47)
Log(state land area)	−.0040	−.0022	.0011	−.0040	−.0021	−.0027	.0007	−.0031
	(3.90)	(6.06)	(2.87)	(7.01)	(2.09)	(6.72)	(1.36)	(5.86)
|State−country of birth	.0001	−.0003	−.0004	−.0005	.0001	−.0001	−.0004	−.0003
temperature|(°F)	(0.51)	(2.25)	(3.55)	(2.76)	(0.60)	(1.18)	(2.76)	(1.95)
|State−country of birth	−.0006	.0026	.0018	.0017	−.0010	.0025	.0020	.0020
temperature sq.| ÷ 100	(0.79)	(8.24)	(6.02)	(3.55)	(1.12)	(7.66)	(5.25)	(4.21)
|State−country of birth	−.0005	−.0004	−.0003	−.0002	−.0004	−.0003	−.0003	−.0002
precipitation|(inches)	(4.67)	(7.27)	(7.69)	(2.96)	(3.39)	(5.53)	(6.35)	(3.99)
|State−country of birth	.0009	.0003	.0002	.0001	.0008	.0002	.0002	.0001
precipitation sq.| ÷ 100	(4.51)	(4.95)	(4.52)	(1.22)	(3.87)	(3.25)	(3.90)	(1.41)
Pseudo-R^2	.397	.397	.405	.388	.406	.403	.405	.381
Number of individuals	2,723	9,214	12,798	5,090	2,562	8,354	7,052	4,006
Number of observations	130,704	442,272	614,304	244,320	122,976	400,992	338,496	192,288

Note: Estimated via conditional logit with robust standard errors. Choice set is 48 contiguous U.S. states; Own-state marginal effects, *z*-ratios in parentheses.
Source: Author's calculations using INS and IPUMS data.

hard to argue that labor market conditions do not influence where immigrants decide to live. The results presented here are consistent with Zavodny (1999), who found, using a different methodology, that employment visa immigrants are generally more sensitive to economic conditions

Table 5. Determinants of Location Choice: Family of Legal Permanent Residents.

Variable	Men				Women			
	1971	1980	1990	2000	1971	1980	1990	2000
Expected log(wage)	.0439	.0374	.0665	.0287	.0642	.0456	.0770	.0298
	(3.48)	(8.43)	(16.28)	(3.57)	(6.72)	(8.41)	(10.71)	(5.65)
Unemployment rate	−.0008	.0008	−.0007	.0095	−.0018	.0006	.0009	.0045
(percentage points)	(0.75)	(2.77)	(1.65)	(8.57)	(2.60)	(2.10)	(1.30)	(5.57)
Region of birth as percent	.0190	.0300	.0098	.0121	.0266	.0337	.0079	.0087
of state population	(4.90)	(19.52)	(12.22)	(10.85)	(8.75)	(23.96)	(7.66)	(15.06)
Region of birth as percent	−.1422	−.4967	−.0836	−.0522	−.4123	−.4952	−.0677	−.0437
of state pop. sq. ÷ 100	(1.72)	(23.56)	(12.93)	(8.94)	(6.19)	(25.38)	(7.93)	(13.53)
Percent of region of birth	.0021	−.0020	−.0007	−.0001	.0020	−.0018	−.0004	.0011
population in state	(4.90)	(10.72)	(4.88)	(0.27)	(6.08)	(10.20)	(2.20)	(6.06)
Percent of region of birth	−.0044	.0046	.0023	.0000	−.0034	.0037	.0018	−.0016
pop. in state sq. ÷ 100	(5.26)	(15.90)	(10.20)	(0.08)	(5.12)	(13.72)	(6.03)	(4.23)
Foreign-born percent of	.0088	.0064	.0065	.0032	.0045	.0050	.0056	.0020
state population	(6.19)	(12.80)	(26.89)	(8.69)	(4.72)	(11.26)	(17.94)	(7.36)
Foreign-born percent of	−.0502	−.0149	−.0182	−.0081	−.0343	−.0139	−.0166	−.0039
state pop. sq. ÷ 100	(5.32)	(5.30)	(19.00)	(6.20)	(5.41)	(5.52)	(13.41)	(3.96)
Log(state population)	.0231	.0289	.0264	.0250	.0225	.0286	.0250	.0160
	(12.49)	(28.14)	(27.39)	(17.16)	(17.18)	(31.29)	(21.09)	(20.06)
Distance from country of	.0037	−.0344	−.0274	−.0166	.0187	−.0288	−.0304	−.0169
birth (1,000 miles)	(0.63)	(18.87)	(18.17)	(5.69)	(3.73)	(16.23)	(14.54)	(8.61)
Distance from country of	−.0898	.2198	.1546	.0816	−.2300	.1773	.1827	.0495
birth sq. ÷ 100	(1.93)	(14.66)	(12.84)	(3.58)	(5.98)	(12.49)	(10.64)	(3.07)
Log(state land area)	−.0036	−.0039	−.0016	−.0067	−.0052	−.0020	−.0017	−.0037
	(2.77)	(8.58)	(2.96)	(8.43)	(6.20)	(4.91)	(2.63)	(8.43)
|State−country of birth	.0011	−.0005	−.0002	.0004	.0002	−.0004	−.0002	−.0008
temperature|(°F)	(3.24)	(3.88)	(1.87)	(1.47)	(0.60)	(2.75)	(1.23)	(4.55)
|State−country of birth	−.0016	.0037	.0027	−.0005	−.0008	.0030	.0024	.0034
temperature sq.| ÷ 100	(1.70)	(9.63)	(8.50)	(0.65)	(1.08)	(8.44)	(5.50)	(6.78)
|State−country of birth	−.0009	−.0006	−.0004	−.0005	−.0008	−.0005	−.0003	−.0007
precipitation|(inches)	(6.22)	(11.31)	(11.05)	(5.58)	(6.67)	(10.50)	(6.68)	(10.80)
|State−country of birth	.0013	.0005	.0003	.0005	.0009	.0005	.0002	.0004
precipitation sq.| ÷ 100	(6.51)	(7.75)	(6.76)	(4.13)	(5.55)	(7.22)	(2.64)	(4.35)
Pseudo-R^2	.437	.510	.466	.435	.407	.472	.455	.433
Number of individuals	1,508	9,087	11,043	2,959	2,388	9,500	6,015	7,451
Number of observations	72,384	436,176	530,064	142,032	114,624	456,000	288,720	357,648

Note: Estimated via conditional logit with robust standard errors. Choice set is 48 contiguous U.S. states; Own-state marginal effects, *z*-ratios in parentheses.
Source: Author's calculations using INS and IPUMS data.

than immigrants in other admission categories, and Borjas (2001), who found that immigrants are more sensitive than natives to labor market conditions when deciding where to live. That the results are fairly similar across decades, while relative economic conditions across states were

Table 6. Determinants of Location Choice: Employment-Based Immigrants.

Variable	Men				Women			
	1971	1980	1990	2000	1971	1980	1990	2000
Expected log(wage)	.0378	.0191	.0502	.0521	.0305	.0416	.1737	.0364
	(4.12)	(3.13)	(5.69)	(7.14)	(2.16)	(2.97)	(10.99)	(2.54)
Unemployment rate	−.0051	−.0020	−.0085	−.0104	−.0044	.0009	−.0162	−.0011
(percentage points)	(6.83)	(5.01)	(9.25)	(10.10)	(4.45)	(1.34)	(7.69)	(0.65)
Region of birth as percent	.0122	.0102	−.0015	−.0028	.0166	.0217	−.0030	−.0046
of state population	(3.35)	(4.32)	(0.89)	(1.93)	(1.90)	(7.08)	(1.68)	(2.04)
Region of birth as percent	−.1438	−.1116	.0233	.0049	−.2155	−.3795	.0652	.0320
of state pop. sq. ÷ 100	(1.63)	(2.73)	(1.58)	(0.53)	(1.10)	(7.93)	(4.31)	(2.46)
Percent of region of birth	.0027	−.0000	.0011	.0019	.0039	−.0021	.0007	.0026
population in state	(8.04)	(0.01)	(3.55)	(5.77)	(5.81)	(5.51)	(2.15)	(4.99)
Percent of region of birth	−.0049	−.0001	−.0007	−.0022	−.0085	.0042	−.0007	−.0036
pop. in state sq. ÷ 100	(6.98)	(0.18)	(1.29)	(3.63)	(6.18)	(6.08)	(1.20)	(3.99)
Foreign-born percent of	.0031	.0006	.0047	.0022	.0061	−.0007	.0048	.0032
state population	(3.86)	(1.10)	(10.02)	(7.25)	(4.77)	(0.70)	(7.44)	(6.29)
Foreign-born percent of	−.0226	.0068	−.0138	−.0062	−.0483	.0192	−.0197	−.0109
state pop. sq. ÷ 100	(4.10)	(1.92)	(6.83)	(5.13)	(5.79)	(3.23)	(6.85)	(5.58)
Log(state population)	.0192	.0250	.0231	.0219	.0310	.0410	.0432	.0199
	(16.27)	(22.71)	(13.93)	(18.12)	(15.40)	(18.13)	(11.61)	(10.41)
Distance from country of	.0132	−.0109	−.0120	−.0039	.0236	−.0208	−.0213	−.0041
birth (1,000 miles)	(3.51)	(5.10)	(3.94)	(1.39)	(3.16)	(4.91)	(5.25)	(0.89)
Distance from country of	−.1781	.0367	.0664	.0035	−.2667	.0988	.1200	.0356
birth sq. ÷ 100	(6.15)	(2.18)	(2.67)	(0.16)	(4.79)	(2.43)	(3.54)	(1.08)
Log(state land area)	−.0038	−.0002	−.0026	.0007	−.0089	−.0141	−.0016	−.0020
	(4.65)	(0.37)	(2.48)	(0.98)	(6.37)	(11.83)	(1.21)	(1.89)
|State−country of birth	−.0005	−.0003	−.0006	.0000	−.0014	.0008	−.0001	−.0004
temperature|(°F)	(2.23)	(1.63)	(2.67)	(0.01)	(3.15)	(2.66)	(0.50)	(1.33)
|State−country of birth	.0019	.0023	.0021	−.0001	.0040	−.0004	.0008	.0010
temperature sq.| ÷ 100	(3.28)	(4.70)	(2.77)	(0.22)	(4.05)	(0.49)	(0.90)	(1.05)
|State−country of birth	−.0009	−.0003	−.0001	−.0001	−.0006	−.0005	−.0004	−.0001
precipitation|(inches)	(6.96)	(3.41)	(1.60)	(1.41)	(2.62)	(4.81)	(4.19)	(0.44)
|State−country of birth	.0008	.0001	−.0001	.0003	.0007	.0001	.0001	−.0001
precipitation sq.| ÷ 100	(5.45)	(1.03)	(0.72)	(2.53)	(2.37)	(0.89)	(0.58)	(0.38)
Pseudo-R^2	.277	.295	.380	.246	.343	.420	.454	.242
Number of individuals	2,478	3,175	1,949	1,710	1,233	1,672	1,539	634
Number of observations	118,944	152,400	93,552	82,080	59,184	80,256	73,872	30,432

Note: Estimated via conditional logit with robust standard errors. Choice set is 48 contiguous U.S. states; Own-state marginal effects, *z*-ratios in parentheses.
Source: Author's calculations using INS and Census data.

changing, suggests that the results are not just picking up an artifact of low unemployment rates in California (for example) at one point in time.

Examining the immigrant concentration variables, I find strong evidence that these are more important for the family reunification groups than for

immigrants entering under an employment visa. As in the models with fixed effects, the share of a state's population from the immigrant's region is the most important of the three immigrant concentration variables for all groups. Moreover, for all four admission categories, the coefficients on the share of the state's population from the immigrant's region of birth are smaller in 1990 and 2000 than they are in 1971 and 1980, suggesting that immigrants started seeking "non-traditional" locations during the last 20 years.

With the geographic and weather variables, as with the pooled fixed effects models, distance from country of birth is most important for relatives of legal permanent residents and least important for employment immigrants. The coefficients are fairly similar over time, except that for some groups the linear and quadratic terms switch signs in 1971. For all groups, the coefficient on log(state population) is positive and for all groups except immediate family of U.S. citizens the coefficient on log(state land area) is negative. This is the pattern we would expect, *ceteris paribus*, if immigrants prefer to live in states with a higher population density (like New Jersey). Because the coefficients on both variables are positive for immediate family of U.S. citizens, it would appear that they prefer to live in less dense states. The sizes of the coefficients on the weather variables are generally quite small and of varying signs, although for some groups in some years they are statistically and significantly different from zero.

I only observe Western Hemisphere and diversity immigrants in 1971 and 2000, respectively, and so cannot include them in the pooled analysis with state fixed effects. In Table 7, I present results from estimating the now-familiar model on these two groups. Both groups provide, in some sense, a better test of the hypothesis that labor markets matter in addition to network and kinship effects, because individuals in neither group needed formal ties like family or employment in the U.S. prior to entering. Diversity immigrants, in particular, were chosen at random, and had a very low probability of actually winning the visa lottery. Their arrival in the U.S. can therefore be seen almost as a natural experiment, at least conditional on having applied for the lottery. Western Hemisphere and, particularly, diversity immigrants are substantially less unconstrained in their choice set than immigrants entering with other types of green cards.

For both groups, I find that labor market conditions are important determinants of their location choice. In particular, for diversity immigrants, higher wages in a state positively affect the probability of locating there, while higher unemployment are a deterrent. For both men and women these effects are statistically and significantly different from zero. This is perhaps

Table 7. Determinants of Location Choice: Western Hemisphere and Diversity Immigrants.

Variable	Men		Women	
	Western Hemisphere	Diversity	Western Hemisphere	Diversity
	1971	2000	1971	2000
Expected log(wage)	.0096	.0366	.0510	.0650
	(1.54)	(5.07)	(8.41)	(5.72)
Unemployment rate (percentage	−.0097	−.0042	−.0017	−.0044
points)	(11.39)	(5.14)	(3.46)	(3.32)
Region of birth as percent of state	.0458	.0088	.0423	.0101
population	(23.43)	(3.39)	(24.21)	(4.10)
Region of birth as percent of state	−1.1533	−.0889	−1.0855	−.0775
population sq. ÷ 100	(23.07)	(2.43)	(25.38)	(2.80)
Percent of region of birth population	−.0012	.0030	−.0005	.0026
in state	(6.64)	(7.39)	(3.83)	(5.28)
Percent of region of birth population	.0029	−.0041	.0011	−.0036
in state sq. ÷ 100	(9.86)	(5.59)	(5.22)	(4.36)
Foreign-born percent of state	.0062	.0028	.0058	.0021
population	(10.91)	(9.39)	(12.84)	(5.86)
Foreign-born percent of state	−.0086	−.0105	−.0129	−.0096
population sq. ÷ 100	(2.20)	(8.59)	(4.12)	(6.80)
Log(state population)	.0196	.0199	.0193	.0234
	(21.81)	(16.91)	(23.56)	(14.53)
Distance from country of birth	−.0243	−.0292	−.0342	−.0269
(1,000 miles)	(8.75)	(7.55)	(12.12)	(5.81)
Distance from country of birth	.1131	.1613	.0656	.1681
sq. ÷ 100	(2.44)	(5.56)	(1.51)	(4.88)
Log(state land area)	.0073	.0005	.0050	.0018
	(14.25)	(0.53)	(11.51)	(1.43)
|State−country of birth	.0004	.0009	.0007	.0008
temperature|(°F)	(2.42)	(4.75)	(4.07)	(3.17)
|State−country of birth temperature	.0022	−.0008	.0004	−.0014
sq.| ÷ 100	(4.62)	(1.54)	(0.89)	(2.11)
|State−country of birth	−.0005	−.0003	−.0004	−.0002
precipitation|(inches)	(8.68)	(4.56)	(7.29)	(2.26)
|State−country of birth precipitation	.0001	.0002	.0003	.0001
sq.| ÷ 100	(1.61)	(2.16)	(3.74)	(0.89)
Pseudo-R^2	.564	.266	.541	.278
Number of individuals	7,851	3,049	9,913	2,029
Number of observations	376,848	146,352	475,824	97,392

Note: Estimated via conditional logit with robust standard errors. Choice set is 48 contiguous US states; Own-state marginal effects, *z*-ratios in parentheses.
Source: Author's calculations using INS and IPUMS data.

the cleanest test and clearest refutation of the hypothesis that labor markets are relatively unimportant in determining where immigrants live.

Immigrant concentrations are much more important for Western Hemisphere immigrants than for diversity immigrants, reflecting, perhaps that they come from relatively few countries. Both groups, however, prefer to locate closer to their country-of-origin than not. Both groups also appear to prefer less densely populated states. As with other groups, weather matters comparatively little.

Lastly, Table 8 presents the marginal effects estimates for refugees in 1971, 1980, and 1990. As with the pooled fixed effects models, I find very strong evidence that refugees locate in areas with good labor markets. These effects were strongest in 1971 for men and in 1971 and 1980 for women, but in all years the magnitude of the coefficients on the labor market variables are similar to those for employment-based immigrants. The impact of immigrant concentrations was stronger for both men and women in 1980 and 1990 than in 1971. Effects of the other variables were roughly constant over time and consistent with other groups.

7. CONCLUSIONS

This paper comprehensively examines the determinants of location choice of legal immigrants between 1971 and 2000. From the preponderance of data and coefficients, a fairly clear picture emerges. Immigrants are generally responsive to labor market conditions, and locate (in most cases) in areas with higher wages and lower rates of unemployment. The magnitude of this relationship differs across admission categories, however, with the most consistent relationship being found for male employment-based immigrants. This is perhaps not surprising: employment-based immigrants must enter the U.S. with a job. Given the cost of recruiting overseas, firms will likely look only for foreign workers if they are in markets in which native workers are scarce, expensive, or both. In general, the results on the effect of labor market conditions on immigrant location choice would seem to refute strongly any notion that immigrants do not respond to labor market conditions. The results also cast doubt on the extensive literature that uses geographic variation in the concentration of immigrants to try to identify the relative demand curves of immigrants and natives. It is clear from these results that immigrants' locations cannot be treated as exogenous to labor demand.[21]

Table 8. Determinants of Location Choice: Refugees.

Variable	Men			Women		
	1971	1980	1990	1971	1980	1990
Expected log(wage)	.1585	.0355	.0398	.1300	.1359	.0401
	(8.81)	(6.13)	(9.13)	(8.13)	(13.23)	(4.30)
Unemployment rate (percentage points)	−.0016	−.0034	−.0019	−.0028	−.0086	−.0040
	(1.37)	(10.08)	(5.42)	(2.44)	(19.52)	(6.40)
Region of birth as percent of state population	.0064	.0210	.0181	.0043	.0160	.0254
	(1.01)	(6.69)	(12.11)	(0.56)	(4.82)	(9.50)
Region of birth as percent of state population sq. ÷ 100	.0069	−.3091	−.0440	.0672	−.0336	−.0990
	(0.06)	(3.22)	(2.12)	(0.51)	(0.44)	(2.91)
Percent of region of birth population in state	.0040	.0040	.0000	.0034	.0025	.0009
	(5.34)	(16.20)	(0.20)	(3.99)	(6.96)	(2.58)
Percent of region of birth population in state sq. ÷ 100	−.0093	−.0066	−.0006	−.0079	−.0037	−.0024
	(5.34)	(13.88)	(1.94)	(4.04)	(5.84)	(4.52)
Foreign-born percent of state population	.0009	.0004	−.0006	.0072	-.0017	−.0030
	(0.48)	(0.87)	(2.78)	(3.53)	(2.76)	(7.38)
Foreign-born percent of state population sq. ÷ 100	.0058	−.0122	.0038	−.0419	−.0028	.0073
	(0.46)	(4.67)	(4.15)	(3.02)	(0.77)	(4.21)
Log(state population)	.0125	.0149	.0160	.0157	.0125	.0195
	(6.41)	(22.97)	(26.66)	(7.58)	(14.04)	(17.51)
Distance from country of birth (1,000 miles)	−.0711	.0561	−.0395	−.0596	.0284	−.0372
	(4.08)	(12.93)	(10.41)	(3.42)	(4.56)	(6.36)
Distance from country of birth sq. ÷ 100	.5142	−.3935	.2652	.4065	−.2268	.2821
	(3.60)	(13.26)	(9.57)	(2.88)	(5.27)	(6.76)
Log(state land area)	.0057	.0062	.0090	.0026	.0042	.0062
	(3.57)	(11.27)	(15.80)	(1.76)	(6.69)	(7.17)
|State−country of birth temperature|(°F)	−.0003	−.0007	−.0001	−.0006	−.0010	−.0008
	(0.68)	(4.35)	(0.59)	(1.47)	(4.07)	(2.80)
|State−country of birth temperature sq.| ÷ 100	.0000	.0021	−.0001	.0020	.0025	.0016
	(0.01)	(4.99)	(0.15)	(1.20)	(4.31)	(2.38)
|State−country of birth precipitation|(inches)	−.0000	−.0006	−.0002	−.0003	−.0007	−.0005
	(0.24)	(8.88)	(2.51)	(1.48)	(8.01)	(4.42)
|State−country of birth precipitation sq.| ÷ 100	.0003	.0001	−.0002	.0007	.0002	.0002
	(0.73)	(1.56)	(1.72)	(2.05)	(1.93)	(1.22)
Pseudo-R^2	.576	.326	.331	.535	.275	.331
Number of individuals	2,283	7,477	8,790	1,432	4,199	8,790
Number of observations	109,584	358,896	421,920	68,736	201,552	421,920

Note: Estimated via conditional logit with robust standard errors. Choice set is 48 contiguous U.S. states; Own-state marginal effects, *z*-ratios in parentheses.
Source: Author's calculations using INS and IPUMS data.

Like previous researchers, I also found that foreign-born concentrations had a magnetic effect on newly arrived immigrants. This magnetism is most strongly felt by relatives of legal permanent residents, although all groups are somewhat subject to it. Individuals in most admission categories are drawn to states in which individuals from their region of birth make up a

higher percentage of the state population. The effects of the share of the foreign-born in the state population as well as the state's share of the total U.S. population of individuals from the immigrant's region of birth are much smaller for most admission groups in most years.

One surprising, but consistent, finding is the degree to which refugees' location choices seem to be influenced by labor market conditions; refugees are often relocated by government agencies or private charities, and I expected that refugees' responsiveness to labor market conditions would therefore be particularly low. One possibility is that resettlement agencies are aware of which labor markets are best and then seek to place refugees in those places.

Diversity immigrants and to some extent Western Hemisphere immigrants provide a quasi-natural experiment as they do not need to have any formal ties to the U.S. prior to arrival. The estimates of their responses to immigrant concentrations and labor market conditions most closely approximate what would happen if the U.S. shifted to a policy that required only that immigrants meet certain skill requirements but not have any formal link through kin or employment to the U.S. It is clear from these results that immigrants are naturally drawn to areas with good labor markets that bring the prospect of lower unemployment and higher wages, as well areas in which individuals born in their home region are a larger share of the population.

How might these results inform immigration policy? If, as the results here suggest, immigrants are responsive to labor market conditions and increase labor market efficiency by being the margin on which labor markets equilibrate geographically (Borjas, 2001), then it stands to reason that this ''greasing the wheels'' function of immigrants would be most enhanced by admitting more of the immigrants who are most responsive to labor market conditions. While the results suggest that all immigrants are, to some extent, sensitive to labor market conditions when deciding where to locate, employment visa immigrants and, surprisingly, refugees, are the most consistently sensitive to higher wages and lower rates of unemployment. Admitting more of these types of immigrants and, perhaps, fewer family reunification immigrants, would likely increase labor market efficiency.

NOTES

1. They were so-called because the paper on which the documentation that showed the immigrant was a legal permanent resident of the U.S. was green, although now the card is predominantly white.

2. While the initial set of countries from which diversity immigrants could come was relatively limited, since 1995 diversity visas have, in general, been open to individuals from most countries in the world. For example, in fiscal year 2007, only individuals from Canada, China (mainland-born), Colombia, Dominican Republic, El Salvador, Haiti, India, Jamaica, Mexico, Pakistan, Philippines, Poland, Russia, South Korea, and the United Kingdom (except Northern Ireland) were ineligible for a diversity visa.

3. I include employment-creation, or "investor," immigrants in the employment-related category. The employment-creation immigrant category was created in Immigration Act of 1990. "Investor" immigrants must agree to invest $1,000,000 ($500,000 in a targeted employment area) and create at least 10 jobs. Since the program's creation, there have been on average 446 immigrants per fiscal year who enter the U.S. with an employment-creation visa.

4. Diversity entrants only appear after 1991.

5. Prior to 1976, Western Hemisphere immigrants were not subject to the same admission categories as Eastern Hemisphere immigrants nor were they subject to per-country limitations, although the overall number of Western Hemisphere immigrants was limited after 1965. Thus, Western Hemisphere immigrants mainly appear in the other admission categories only after 1976.

6. The one exception is formerly illegal aliens who were legalized as part of the Immigration Reform and Control Act (IRCA) of 1986. More than 2.6 million illegal aliens have been given green cards since 1989 under the IRCA amnesty, with all but approximately 35,000 legalizations occurring between 1989 and 1992. Information on individuals who received a green card via IRCA legalization is not available in the INS data files.

7. Both refugees and asylees are granted admission to the U.S. because they fear persecution, injury, deprivation, or death if they were to return to their home country. Refugees and asylees differ only in where they seek protection by the U.S. Refugees are those who seek protection while outside of the U.S., while asylees are those who seek protection while already in the U.S. I will refer to both groups as "refugees" for the rest of the paper.

8. Both of these words are sometimes used to describe the status of non-primary immigrants.

9. The fiscal year was July-June for years prior to 1976 and October-September for fiscal years after 1976. There is also a file for the "transition quarter" of July-September 1976.

10. I treat Washington, D.C. as part of Virginia for the analysis.

11. Prior to 1976, some refugees were permitted to enter the U.S. with a green card in hand rather than waiting one year with a temporary visa before applying for one.

12. Unfortunately, one cannot identify members of the same family entering the U.S. to link the "primary" immigrant to his or her "beneficiaries."

13. Note that these statistics are for the calendar year, not the federal government's fiscal year, and so will not match exactly the statistics reported by the Immigration and Naturalization Service. They also do not include amnesty legalizations authorized by the 1986 Immigration Reform and Control Act. After 2000, the flow of immigrants increased again. From fiscal years 2000 to 2004, the number of immigrants admitted to the U.S. averaged about 925,000, with a peak of just over 1,000,000 in 2002 (United States Census Bureau, 2006, Table 6).

14. The regions of origin are: Western Europe, Southern Europe, Eastern Europe, North America excluding Mexico, Mexico and Central America, South America, Caribbean, Africa, Middle East, Southwest Asia, Southeast Asia, East Asia, and Oceania. See the Data Appendix for more information about which countries are included in each region.

15. The small number of European-born immigrants that appear for Western Hemisphere visas is due to individuals who were born in Europe but who could be "charged" to a Western Hemisphere country, presumably because they had become citizens there.

16. One of the categories is a residual category of individuals who are unemployed, out of the labor force, retired, or are homemakers, which are not separately identified in the IPUMS data. The rest of the categories are listed in Appendix Table A1.

17. Note that this is just the population of a region of birth group in a state divided by the total population of that region of birth group in the U.S. Since this denominator is the same for all states, the variable measures the effect of the absolute size of the group, but in a way that permits easier comparison to the other immigrant concentration variables.

18. The Data Appendix discusses how these distances were calculated in greater detail.

19. Note that because neither distance nor weather relies on the IPUMS data, I use the actual country of birth rather than the general region of birth in calculating these variables.

20. That labor market conditions are more important for the male spouses of female U.S. citizens than they are for female spouses of male U.S. citizens suggests that, perhaps, female immigrants are more likely than their male counterparts to marry for love than for money.

21. See Chiswick (1992, 1993) for early critiques of identifying the impacts of immigration using cross-metropolitan area variation.

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DATA APPENDIX

1. Region of Birth Groups

Region of birth groups are defined in both the Immigration and Naturalization Service data and in the various Censuses from the IPUMS.

Codes for the different countries vary across different years of the INS data and between the INS data and the IPUMS. In addition, the names of some geographic areas have changed over time (e.g. the breakup of the Soviet Union). This list, therefore, is not exhaustive, but should be sufficient so that the reader knows which countries are included in which grouping.

Western Europe: Austria, Belgium, Denmark, Finland, France, Germany, Iceland, Ireland, Liechtenstein, Luxembourg, Monaco, Netherlands, Norway, Sweden, Switzerland, United Kingdom.

Southern Europe: Gibraltar, Greece, Italy, Malta, Portugal, San Marino, Spain, Vatican City.

Eastern Europe: Albania, Andorra, Bulgaria, Czechoslovakia, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Soviet Union, Yugoslavia.

North America: Bermuda, Canada, Greenland, St. Pierre and Miquelon.

Central America and Mexico: Belize, Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama.

South America: Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Falkland Islands, French Guyana, Guyana, Paraguay, Peru, Suriname, Uruguay, Venezuela.

Caribbean: Anguilla, Antigua, Aruba, Bahamas, Barbados, British Virgin Islands, Cayman Islands, Cuba, Dominican Republic, Dominica, Grenada, Guadeloupe, Haiti, Jamaica, Martinique, Montserrat, Netherlands Antilles, St. Kits-Nevis, St. Lucia, St. Vincent and the Grenadines, Trinidad and Tobago, Turks and Caicos Islands.

Africa: Algeria, Angola, Benin, Botswana, Burkina Faso, Burundi, Central African Republic, Cameroon, Cape Verde, Chad, Comoros, Congo, Djibouti, Egypt, Equatorial Guinea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Ivory Coast, Kenya, Lesotho, Liberia, Libya, Madagascar, Malawi, Mali, Mauritania, Mauritius, Morocco, Mozambique, Namibia, Niger, Nigeria, Reunion, Rwanda, Sao Tome and Principe, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, St. Helena, Sudan, Swaziland, Tanzania, Togo, Tunisia, Uganda, Western Sahara, Zaire, Zambia, Zimbabwe.

Middle East: Bahrain, Cyprus, Iraq, Israel, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Syria, Turkey, United Arab Emirates, Yemen.

Southwest Asia: Afghanistan, Bangladesh, Bhutan, India, Iran, Maldives, Nepal, Pakistan, Sri Lanka.

Southeast Asia: Brunei, Burma, Cambodia, Indonesia, Laos, Malaysia, Philippines, Singapore, Thailand, Vietnam.

East Asia: China, Hong Kong, Japan, Korea, Macau, Mongolia, Taiwan.
Oceania: Australia, Christmas Island, Cocos Island, Cook Island, Fiji, French Polynesia, French Southern Antarctic, Kiribati, Nauru, New Caledonia, New Zealand, Niue, Papua New Guinea, Pitcairn Island, Solomon Island, Tonga, Tuvalu, Vanuatu, Wallis and Futuna Islands, Westem Samoa.

2. Distance

Distance from country of birth to the state of intended residence is calculated as the straight line distance from the most populous city in the country of birth in 1991 to the geographic center of each state (taken from http://geography.about.com/library/weekly/aa120699a.htm). Distance, d, in 1,000s of miles is calculated following Sinnot (1984):

$$d = \frac{2 \cdot 3956}{1000} \arcsin\left(\min\left(1, \sqrt{a}\right)\right) \tag{A.1}$$

where

$$a = \sin\left(\frac{lat_2 - lat_1}{2}\right)^2 + \cos(lat_1) \cdot \cos(lat_2) \cdot \sin\left(\frac{lon_2 - lon_1}{2}\right)^2 \tag{A.2}$$

lat_2 and lon_2 are the coordinates of the destination (in radians), lat_1 and lon_1 the coordinates of the origin (in radians) and 3,956 is the diameter of the earth in miles. This method treats the Earth as a perfect sphere, resulting in less measurement error than if the earth were treated as a flat plane.

3. Ordered Logit Estimates and Skill Imputation

Skill categories for individuals in the INS data were predicted on the basis of reported occupation, age, and marital status. I estimated an ordered logit using pooled data from the 1980 and 1990 IPUMS on foreign-born individuals aged 25–64, separately for men and women. The dependent variable has three categories: less than 12 years of school, 12–15 years of school, and 16 or more years of school. The method suggested by Jaeger (1997) was used to code the schooling categories. Results of the ordered logit regressions are presented in Appendix Table A1. This method correctly predicts the within-sample educational category about 64% of the time in the IPUMS data. The predicted probabilities of being in each skill category

for individual i are then

$$\begin{aligned}
&\hat{P}(S<12)_i = (1+\exp(X_i\hat{\beta}-\hat{\mu}_1))^{-1}\\
&\hat{P}(12\le S<16)_i = (1+\exp(X_i\hat{\beta}-\hat{\mu}_2))^{-1} - (1+\exp(X_i\hat{\beta}-\hat{\mu}_1))^{-1}\\
&\hat{P}(S\ge 16)_i = 1-\hat{P}(S<12)_i - \hat{P}(12\le S<16)_i
\end{aligned} \tag{A.3}$$

where $\hat{\mu}_1$ and $\hat{\mu}_2$ are the estimated cut points, X_i is the vector of characteristics (age, age squared, occupational dummy variables, and a dummy variable for being married), and $\hat{\beta}$ is the vector of estimated coefficients.

Table A1. Skill Level Imputation between 1980 and 1990 Census Pooled Sample of Foreign-Born.

Variable	Men		Women	
	Coeff.	Std. err.	Coeff.	Std. err.
Southeast Asia	reference		reference	
Southwest Asia	0.909	0.025	0.761	0.028
Africa	0.686	0.032	0.220	0.032
East Asia	0.260	0.019	0.147	0.017
Western Europe	0.029	0.018	−0.113	0.016
Eastern Europe	−0.177	0.017	−0.233	0.015
Oceania	−0.300	0.044	−0.392	0.038
Middle East	−0.325	0.026	−0.436	0.030
North America	−0.385	0.019	−0.392	0.019
South America	−0.387	0.021	−0.434	0.018
Caribbean	−0.831	0.017	−0.809	0.016
Southern Europe	−1.277	0.018	−1.254	0.018
Mexico and Central America	−2.020	0.016	−1.974	0.015
Writers, artists, entertainers and athletes	reference		reference	
Physicians	5.774	0.187	4.901	0.242
Lawyers	4.728	0.256	3.373	0.197
Post-secondary teachers, social scientists, librarians	3.189	0.078	2.133	0.063
Mathematical, computer, and natural scientists	1.928	0.053	1.575	0.064
Teachers except post-secondary	1.885	0.063	1.281	0.042
Engineers, surveyors, and architects	1.837	0.038	1.644	0.086
Nurses, health assessment, diagnosing, and treating	1.605	0.066	0.574	0.037

Table A1. (*Continued*)

Variable	Men		Women	
	Coeff.	Std. err.	Coeff.	Std. err.
Counselors, social, recreation and religious workers	1.398	0.067	1.053	0.063
Executives, administrative, and managerial	0.212	0.030	−0.225	0.035
Technologists and technicians	0.192	0.034	0.026	0.039
Sales	−0.555	0.031	−1.273	0.034
Administrative support	−0.665	0.032	−0.937	0.033
Precision production, craft, and repair	−1.700	0.030	−2.331	0.038
Service	−1.900	0.031	−2.206	0.034
Laborers	−2.057	0.030	−2.886	0.034
Unemployed, out of labor force, retired, homemaker	−2.191	0.037	−2.251	0.033
Farming, forestry, and fishing	−2.681	0.036	−3.263	0.049
Age	0.043	0.003	0.009	0.003
Age^2	−0.001	0.000	−0.000	0.000
Married	−0.014	0.008	0.061	0.008
Cut point 1	−2.511	0.073	−3.564	0.070
Cut point 2	0.324	0.073	−0.367	0.070
Pseudo-R^2	0.292		0.237	
N	387,050		429,672	

Note: Estimated with ordered logit; sample limited to non-students aged 25-60. Entries in table are logit coefficients and standard errors. Dependent variable categories are: less than 12th grade, 12th-15th grade, 16th grade and higher.
Source: Authors tabulations of 1980 and 1990 IPUMS data.