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Community Ties: The Importance of Co-Ethnics in Settlement Decisions Among Indian and Filipino Professionals Immigrating to the United States

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INTRODUCTION

Among the countries losing professionals to the United States, India and the Philippines are two of the most important due to the large numbers of immigrants involved. Especially within those professions consisting of the highest percentage foreign-born workers (i.e., nursing, medicine, engineering and the sciences) Indians and Filipinos arrive in the largest numbers. These countries also, therefore, serve as the most promising candidates for a detailed analysis of the role networks play in the immigration process among professionals.

The following analysis draws upon Fawcett and Arnold's (1987) Migration System Paradigm. In relation to their model of the immigration process these authors discuss several sets of factors assumed to affect migration at various stages. This paper attempts to operationalize some of those resource-based measures in order to assess their impact on immigrant professionals' networks. The general research questions addressed are as follows: 1) Do personal relationships or employment conditions play a more predominant role in locational decision-making among recent immigrants?; 2) What differences exist in these effects across occupational groups, by nativity and over time? and 3) What do the findings suggest about the significance of networks among highly skilled immigrants?

BACKGROUND

As political and economic conditions in the United States, India and the Philippines led to systems favoring immigration of professionals into the United States from these countries, network ties have become important in facilitating movement. The networks of Indians developed primarily through weak ties to employers willing to sponsor skilled workers under the two occupational preferences of the 1965 Immigration Act amendments (Liu 1992). On the other hand, Filipinos made use of both family connections and employment prospects in the U.S. Over time, while employment-based migrant networks have retained their significance to Indians and Filipinos wishing to enter the United States, family-based migrant networks have come to predominate net flows.[1]

In general, one would assume that most immigrants choose to settle in areas where previous natives have settled, where job prospects appear favorable and where the environmental conditions match as closely as possible those of their home community. However, in addition to potential differences in the impact of these factors by nativity, important differences may exist by occupation within nativity groups. The existence of occupational niches may, for instance, lead to concentrated settlement within a particular occupation.

We should also expect to see some differences by sex and by admission class. Previous research by this author suggests that the odds of entry through employment preferences are greater for men than for women. It seems reasonable to assume that those entering through spousal

[1] Despite the increased reliance on family sponsorship in net migration there are two reasons that native-communities are likely to play a less important role in the present analysis. First, several important legislative changes have eased entry for foreign-born professionals since passage of the 1965 Amendments. These measures have provided numerous means of entry for professionals outside the family preferences. Second, the following analysis considers only those professionals entering through either spousal or employer sponsorship.

sponsorship would be drawn more by the presence of co-ethnic communities given the relatively high rates of endogamous marriage among Asian groups (Hwang, Saenz and Aguirre 1995). Similarly, since obtaining an occupational visa requires a job offer, those entering through employer sponsorship should respond more to the employment conditions in a particular state. Taken together, these points suggest that employment opportunities should have a greater impact on men while the existence and size of native populations should affect women more.

Finally, there are reasons to believe that economic conditions have gained in significance over time as compared to general environmental conditions. After passage of the 1965 amendments, recent Asian immigrants relied heavily on the aid provided by fellow-natives already resident in the United States. Under these conditions, new immigrants depended on the exchange of information offered by their fellow-natives. Over time, as information channels expanded, knowing people in a certain area no longer proved as essential in successfully adapting to American society.

An analysis similar to the one presented here, conducted by Vasegh-Daneshvary et al. (1986) and based on the 1980 Census Public-Use Microdata files, focused on college-educated immigrants (those with at least two years of college training) who had entered the U.S. between 1970 and 1974 and who were in the U.S. labor force in 1980. These authors found significant differences in the factors influencing initial choice of residence across origin regions. Among Asians, the variables relating to employment opportunities (i.e., state unemployment rates, research and development expenditure and number of scientists) proved more significant than for other origin

Limiting the analysis in this way effectively discounts the impact of increasing sibling sponsorship as a form of family-based entry.

regions. However, the number of foreign-born residents of similar origin in each state was highly significant for all sending regions.

The Vasegh-Daneshvary et al. study, however, confounds the impact of these variables across very diverse immigrant populations. Treating Asia as an origin area undermines our ability to distinguish settlement patterns by very distinct sociocultural groups. A state, such as California, may support a very large Asian population but if very few of these Asian-origin immigrants are Indian then it could be misleading to say that California's foreign-born Asian population influenced the settlement patterns of recent Indian immigrants to that state. Similarly, if state-specific unemployment rates differ significantly by occupation then the overall state unemployment rate could represent a flawed indicator of the employment conditions for specific occupational groups. The analysis which follows addresses these and other potential problems in the previous study and offers some evidence of the changing significance of these factors over time.

Based on the above assumptions, the analysis in this chapter examines the following hypotheses with respect to the settlement choices of recent Indian and Filipino immigrants in the United States:

> H_1: Overall, employment opportunities, such as income potential and unemployment rates, play a more important role than environmental factors in determining where immigrant professionals settle upon entry to the United States.
> H_2: Opportunities for employment entry have increased for professionals such that, over time, employment conditions have become increasingly more important than environmental conditions in predicting settlement patterns.
> H_3: Due to the historically smaller size of the Indian population and subsequent lack of interpersonal sponsors, employment conditions have been more important to the settlement decisions of Indians than Filipinos when compared to environmental factors.
> H_4: Employment prospects play a more important role than environmental factors for members of the medical professions, employment migrants and men than for engineers and scientists, spousal migrants and women.

DATA AND METHODS

Data Set Strengths and Weaknesses

The present analysis utilizes data from both the 1982 and 1992 data files, *Immigrants Admitted to the United States*, as compiled by the Immigration and Naturalization Service (INS) and the 1980 and 1990 *Public Use Microdata Samples* (PUMS) of the United States' Census Bureau. The INS data files provide data on immigrants admitted to the United States, while the census files offer evidence of social and economic conditions within the fifty states and the District of Columbia. Both sets of files provide the respondents' place of birth as a means of identifying Indians and Filipinos. Using this measure may lead to errors since some persons of non-Indian or non-Filipino ancestry (e.g., Europeans born in India) appear in the birth place records but the percentages are likely to be small. Although the census data provide some means to weed out these aberrant cases the INS files do not. Therefore, place of birth served as the indicator of ethnic background for the sake of comparability between the two sets of data. Table 3-1 presents the descriptive statistics for the sample.

Although these data sets contain various limitations they provide suitable information for the purposes of the present study. The interest in this analysis is to explain immigrant residential decision-making as a function of conditions in the receiving society. Since the INS data cover annual immigrant admissions but the census occurs in 10 year intervals the analysis was limited to only a few years. In this case, data from the 1980 and 1990 census files were matched with data for 1982 and 1992 immigrant admissions.

The time gap between the two sets of data was necessary for two reasons. First, ideally the Census Bureau collects data for those U.S. residents present in a particular location on the day of

Table 3-1: Descriptive Statistics for Relevant Independent Variables

Variable	Indians (%)	Filipinos (%)
Visa		
Spousal	595 (12.41)	1452 (36.54)
Occupational	4201 (87.59)	2522 (63.46)
Status		
Immigrants	1489 (31.05)	1646 (41.42)
Non-Immigrants	3307 (68.95)	2328 (58.58)
Sex[a]		
Males	3931 (81.96)	804 (20.23)
Females	860 (17.93)	3169 (79.74)
Occupation		
Doctors	391 (8.15)	252 (6.34)
Nurses	591 (12.32)	3039 (76.47)
Engineers	2716 (56.63)	460 (11.58)
Scientists	1098 (22.89)	223 (5.61)
Mean Age	33	35
Total	**4796**	**3974**

Source: Immigration and Naturalization Service, "Immigrants Admitted to the United States, 1982 and 1992"
a - Percentages do not add up to 100 due to missing values for sex on some cases.

the census administration, April 1[2] of the calendar year. The INS, on the other hand, utilizes a fiscal year beginning October 1 of a given year and ending on September 30 of the following year. Given the overlap between calendar and fiscal years, a two year separation between data collection provided the minimal necessary time delay.[3] Second, immigrants considering moving to the United States likely examine the conditions in the U.S. before immigrating. Since most immigrants

[2] In practice, the census actually covers people throughout the census year due to the necessity of follow-ups from non-return of the mailed census forms, refusals, empty residences and a variety of additional problems.
[3] Data for fiscal year 1981 would include some immigrants actually admitted in the fall and winter of calendar year 1980 so 1982 would be the first year of data for immigrant admissions independent of the data from the census files.

experience a time lag between the time they decide to migrate and the time they actually obtain a visa the state-specific factors included in the analysis had to be measured prior to the immigrant's entry.

As noted earlier, data were required from the census files for each state and the District of Columbia. The 1980 and 1990 PUMS files lend themselves to this type of extraction due to their organization by state codes. The 1970 file, however, was organized according to a three-fold hierarchy of specificity (i.e., geographical area, household and individual). The household level files do not include specific information on individuals such that it is impossible to calculate, by state of residence, values of the independent variables specific to each ethnic group. In addition, Indians were not identified as a separate "race" in the 1970 Census,[4] making it much more difficult to establish accurate counts and figures for the Indian population. For this reason, the analysis is limited to 1980 and 1990.

Dependent and Independent Variables

The following analyses attempt to assess the impact of state-specific resources on the residential decisions of recent immigrants. Only immigrants admitted through spousal and employment visas are included and only four occupations -- engineering, the sciences, physicians and nurses -- are studied. The dependent variable for this stage of the research is a simple state-

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[4] The "racial" classification of Asian Indians has had a tumultuous history with respect to the U.S. Census. In the early 1900s, Indians sought to bypass discriminatory laws against Asians by drawing on their shared heritage with those groups considered "white." Despite sharing Aryan ancestry with European Americans, the U.S. Supreme Court, in 1928, declared that Indians could not be considered "white" by the layman's understanding of the term (Singh 1945) so census enumerators were made to categorize Indians into some other "racial" category. As the Indian population has grown in the U.S. the "racial" designation has alternated between "Hindu," "Other," and "Asian Indian," the latter category first recognized in the 1980 Census and used since (Lee, 1993).

specific count of the number of Indian and Filipino immigrants citing state *i* as their "state of intended residence."

The models used include four state-specific independent variables. The first indicates the average annual temperature of the state. Since most Indians and Filipinos arrive in the U.S. from relatively warm climates, they most likely prefer those states with mild temperatures. Although not likely to be the primary consideration among a majority of immigrants, it was included as a measure of the general environment facing immigrants to each state.[5] The second variable counts the number of fellow-natives resident in the state the year prior to the immigrant's admission. Generally, we should expect new arrivals to prefer those areas in which their countrymen reside.

The last two independent variables account for employment opportunities in the state as they pertain to the immigrant's ethnic or occupational group. The first of these variables indicates the median household income of fellow natives in state *i*. Given the financial costs of immigrating and the quest for greater employment prospects in the United States, immigrants most likely choose those states which provide the greatest financial rewards for their service. The final variable represents the occupation-specific unemployment rates for each of the four occupations under consideration. Given the extremely small numbers of Indians and Filipinos in a majority of the states, occupation- specific unemployment rates by nativity would be quite unreliable. The measure therefore identifies the unemployment rate for all physicians in state *i*, for example, without regard to ethnic origin. The decision to calculate unemployment this way is further justified given the fact that

[5] States such as California, due to their size, may exhibit very diverse intra-state temperatures. However, the average annual temperature provides a sufficiently accurate measure of general conditions for the purposes of this analysis.

immigrants compete for jobs with all similarly trained workers in the state, not simply fellow natives, which suggests the need for a more global measure of unemployment.

Model Estimation

The analysis utilizes Ordinary Least Squares (OLS) regression to study the impact of state-specific resources on the number of immigrants choosing a particular state as their area of intended residence. The models derive from the following basic equation:

Number of Immigrants Citing State, *i*, as Area of Intended Residence = $Y_i = a_i + B_iX_i + e_i$

where the X_i represents a matrix of the independent variables.

Results and Tests of Hypotheses

The results of the regression appear to offer evidence in favor of the view that employment opportunities outweigh environmental conditions but not overwhelmingly so. Table 3-2 presents the combined results for both nativity groups and years of analysis. All of the variables are highly significant in predicting the settlement patterns of Indian and Filipino immigrant professionals (with individual t-values significant at the 0.001 level or better). However, the significance measures do not clearly indicate which of the factors predominates.

One means of determining the significance of individual predictors to a regression model is through use of the coefficient of partial determination. This is a modified measure, similar to the standard coefficient of multiple determination (R^2) but indicates the marginal effect of adding an individual independent variable to the regression equation on reducing the variability associated with that model. Calculation of the coefficient requires comparison of the residual sum of squares of the

Table 3-2: Impact of Geographic and Economic Conditions on Choice of Residence

Variable	**Coefficient**	**t-Value**	**Coefficient of Partial Determination**
MedInc	0.0089**	45.658	0.1921
OccUnemp	54.7211**	16.034	0.0251
Natives	0.0006**	38.272	0.1432
AveTemp	2.4830**	7.504	0.0064
Constant	-315.8724**	-16.014	
Overall F	**(4, 8765) = 1322.88**		
R^2	**0.3764**		

Source: Immigration and Naturalization Service, "Immigrants Admitted to the United States, 1982 and 1992" and U.S. Bureau of Census, "Public Use Microdata Files, 1980 and 1990"
* - Significant at the 0.05 level ** - Significant at the 0.01 level

equations with and without the variable of interest.

The coefficient of partial determination (henceforth referenced as R^2_p) will, therefore, provide evidence of which factor, when added to an equation containing the remaining three independent variables under consideration, leads to the greatest reduction in residual variability. The measure is quite informative for determining the role of a specific independent variable to a particular model (Myers 1990). The values of the partial R^2_p are reported in the last column of Table 3-2.

The results indicate that median income and the presence of fellow natives are most significant in reducing the error variability among the four variables included. The R^2_p value slightly favors median income over native communities as a predictor with values of 0.1921 and 0.1432, respectively. The interpretation is that by including median income into a model which includes the other three variables, the residual variability is reduced by 19.32% while for fellow-natives, the reduction is 14.32%.

The lack of clear predominance with respect to employment conditions over the pull of fellow-natives may result from the fact that a large percentage of the immigrants in this sample (approximately 23%) were admitted through spousal visas. These immigrants are more likely to settle in areas of high co-ethnic concentration than are employment-based immigrants. In addition, if many of the occupational preference immigrants chose location based on the presence of occupational niches, then the existence of native communities could play a more important role than expected.

There appear to be important differences by both nativity and year with respect to these findings. Incorporation of variables representing ethnicity and year into the previous model indicated highly significant values for both factors. Table 3-3 presents a model of the combined years which tests the significance of the factors for Indians versus Filipinos separately. The hypothesis of the predominance of employment considerations receives much clearer support for Filipinos than for

Table 3-3: Impact of Geographic and Economic Conditions on Choice of Residence by Nativity

	Indians	**Filipinos**
	Coefficient (t-value)	**Coefficient (t-value)**
MedInc	0.0005** (2.970)	0.0097** (52.196)
OccUnemp	29.9739** (12.110)	10.4106* (2.278)
Natives	0.0072** (130.264)	0.0005** (39.347)
AveTemp	5.4199** (19.852)	-4.1262** (-12.983)
Constant	-388.9095** (-22.871)	105.8245** (5.751)
F	**(4, 4791) = 6792.70**	**(4, 3969) = 1292.98**
R^2	**0.8501**	**0.5658**

Source: Immigration and Naturalization Service, "Immigrants Admitted to the United States, 1982 and 1992" and U.S. Bureau of Census, "Public Use Microdata Files, 1980 and 1990"
* - Significant at the 0.05 level ** - Significant at the 0.01 level

Indians. The findings for Filipinos mirror the pattern exhibited in the pooled model with median income leading to much greater reductions in variability (at 40.70%) than native communities (28.06%). Among Indians, the presence of fellow-natives exerts the greatest influence on settlement patterns. Including co-ethnic communities into the model for Indians led to a reduction in error variability of 77.98%, clearly, the most important factor of the four.

Among Filipinos, the existence of co-ethnic communities appears to play an important role in settlement decisions but less so than the potential earnings in the state of choice. Unemployment rates are relatively less important for both groups, most likely because the unemployment rates for these occupations are quite low in a vast majority of states.[6] The significance of average temperatures on the dependent variable suggests that other conditions in the state play an important, but much less significant, role in determining where immigrants choose to reside.

Breaking the analysis down by year in Table 3-4 demonstrates a clear and substantial

Table 3-4: Impact of Geographic and Economic Conditions on Choice of Residence by Year

	1982		1992	
	Coefficient (t-value)	**Coefficient of Partial Determination**	**Coefficient (t-value)**	**Coefficient of Partial Determination**
MedInc	0.0063** (20.903)	0.1543	0.0110** (26.318)	0.1067
OccUnemp	-10.6274** (-7.201)	0.0172	87.0884** (16.921)	0.0471
Natives	0.0012** (117.422)	0.8231	0.0005** (25.572)	0.1014
AveTemp	-0.3277* (-2.301)	0.0018	2.8874** (5.982)	0.0061
Constant	-36.2556** (-3.081)		-491.1247** (-14.806)	
F **R^2**	**(4, 2963) = 3737.94** **0.8346**		**(4, 5797) = 483.11** **0.2500**	

Source: Immigration and Naturalization Service, "Immigrants Admitted to the United States, 1982 and 1992" and U.S. Bureau of Census, "Public Use Microdata Files, 1980 and 1990"
* - Significant at the 0.05 level ** - Significant at the 0.01 level

reduction in the significance of ethnic communities on immigration patterns overall but does not support the claim of overwhelming significance of employment factors in the 1990s. In the early 1980s, native communities played the greatest role in accounting for model variability (with an R^2_p

value of 0.8231). By the 1990s, median income and native communities were equally important in determining settlement patterns and the level of occupation-specific unemployment grew in significance. The general patterns observed for each year, however, appear to mask important differences across other individual characteristics. For example, a test for the significance of immigrant ethnic background suggests important differences between Indians and Filipinos by year.

The results of breaking down the analysis by both year and nativity, reported in Table 3-5, indicate that in 1982 Filipinos were about as likely as Indians to settle in those areas with large co-ethnic populations (native communities reduced error variability by well over 90% for both groups). By 1992 potential income played a greater role for both sending regions and became the dominant factor in determining immigrant location among Filipinos. Although some reduction in the effect of native communities occurred among Indians as well, the decline was relatively small and the presence of fellow-natives still played the greatest role in shaping Indians' choice of residence.

One additional difference between the Indian and Filipino samples is the generally poorer fit of the models among Filipino respondents in the 1990 sub-sample. The goodness-of-fit statistics reported in Table 3-5 suggest that some additional set of factors must be identified in order to adequately understand and model the residential decision-making process of Filipinos in the 1990s. With the apparent growth in significance of employment-based factors for this group of respondents it appears reasonable to begin the search for additional factors within the economic sector.

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[6] The highest unemployment rate calculated was 14.85% among scientists in Alaska but in most cases the unemployment rate remained at around 2% for all four occupations and across all states. Scientists averaged the highest rates while physicians enjoyed practically full employment in every state.

Table 3-5: Impact of Geographic and Economic Conditions on Choice of Residence by Year

	1982		1992	
Indians	**Coefficient**	**t-Value**	**Coefficient**	**t-Value**
MedInc	-0.0007**	-4.52	0.0009**	2.70
OccUnemp	1.9842**	3.45	41.3553**	11.37
Natives	0.0054**	183.30	0.0071**	103.85
AveTemp	1.5723**	26.12	7.0339**	17.35
Constant	-69.1868**	-12.60	-520.1651**	-16.89
F	**(4, 1449) = 8482.2**		**(4, 3337) = 4102**	
R^2	**0.9590**		**0.8310**	
	1982		**1992**	
Filipinos	**Coefficient**	**t-Value**	**Coefficient**	**t-Value**
MedInc	0.0078**	31.62	0.0161**	43.95
OccUnemp	-28.8088**	-18.47	29.756**	4.24
Natives	0.0013**	151.38	0.0005**	30.60
AveTemp	0.8853**	-6.53	-8.6887**	-20.94
Constant	-32.6167**	-3.11	7.5038	0.29
F	**(4, 1509) = 6702.00**		**(4, 2455) = 705.20**	
R^2	**0.9467**		**0.5347**	

Source: Immigration and Naturalization Service, "Immigrants Admitted to the United States, 1982 and 1992" and U.S. Bureau of Census, "Public Use Microdata Files, 1980 and 1990"
* - Significant at the 0.05 level ** - Significant at the 0.01 level

The results are somewhat difficult to interpret with respect to immigrant networking and run counter to expectations. If immigrants relied heavily on family sponsorship, which Filipinos were more likely to do immediately following the 1965 amendments than Indians, then you would expect Filipinos to settle in areas with a large number of previous Filipino immigrants and would expect Indians to settle in a more dispersed manner based on their reliance on employment preferences. As discussed earlier, one explanation for these results could be that Indians have settled on the basis of ethnic occupational niches rather than simply ethnic niches. For example, if employers in the Silicon Valley hire predominantly Indian engineers, then you may see a clustering of recent Indian immigrants in California. Another possibility is that, by the 1980s, enough Indians had settled in the

United States to provide the aid and resources to fellow-natives which would encourage settlement centering on ethnic communities. It is possible that the sponsorship and settlement process occurs in a cycle and that the patterns experienced by Filipinos soon after passage of the 1965 Amendments did not begin for Indians until some time in the late 1970s or early 1980s.

To confirm or refute the argument presented above would require additional information such as a longer time span for comparison (i.e., data from the INS and Census which would extend back to the 1960s and 1970s) or more specific information on residential decision-making at the neighborhood level. Unfortunately, such data are unavailable at the present time. The issue warrants further study since it would contradict a claim made by Portes (1987) that

> "Immigrant professionals and technicians do not tend to form concentrated ethnic communities but are usually dispersed throughout cities and regions and follow diverse career paths. More important, they generally enter the primary labor market, where they help to alleviate shortages in specific occupations" (p. 61).

Portes' argument may hold for the medical profession, for example, where foreign medical graduates are often sent to remote rural areas, inner-city hospitals or other areas shunned by native-born and American trained physicians. However, the same logic may not hold for engineers or other occupations in which labor concentration may operate through ethnic niches. The results offer no evidence for concentration of settlement at the neighborhood or community level but do suggest the need for further study.

Based on the preceding it appears reasonable to next examine the influence of co-ethnics on settlement patterns by occupation and other relevant characteristics. The idea that ethnic niches might explain the continued significance of ethnic communities would receive some support if engineers rely more heavily on co-ethnics than physicians. The results of this analysis (data not presented) seem to confirm the arguments presented above.

Among Indians, ethnic communities play the most important role in settlement patterns across all occupations in both 1982 and 1992 (with $R^2{}_p$ values of 0.9500 or larger for all professionals in 1982 and greater than 0.5000 in 1992). Although the presence of fellow-natives appears as the most important factors across all occupations in both years, however, the results suggest this is less true for physicians than for engineers (with $R^2{}_p$ calculated as 0.5842 among physicians and 0.8605 for engineers - nurses and scientists fall somewhere in-between with values of 0.6345 and 0.6589, respectively).

Ethnic communities play a decidedly important role for Filipinos of all occupational backgrounds as well in 1982 but the median household income of fellow natives gains in significance by 1992 and surpasses the effect of fellow-natives among nurses and scientists. As was the case with Indians, native communities retain greatest significance among engineers and least significance for physicians. The results for nurses and scientists carry the most interest in this case, however. In 1982 Filipino nurses apparently relied very heavily on fellow Filipinos to provide resources for settlement and adaptation. A possible scenario is that hospitals recruited Filipino nurses who in turn found jobs for their friends from the Philippines.[7]

By 1992, nursing recruitment may have become more entrenched throughout the country, especially given the introduction of special legislation relaxing immigration policies against foreign-trained nurses in the late 1980s. Filipino nurses hoping to immigrate to the United States may have become less reliant on recommendations from previous immigrants. A similar pattern of development may have occurred among scientists but the legislative measures in place for nurses do not exist for scientists, suggesting a need to determine some other cause for the reduced dependence on fellow-natives among Filipino scientists.

The results pertaining to admission category suggest that Indians entering through occupational visas either depend on the aid of ethnic niches or are more heavily dependent on fellow-natives for social resources. Although fellow-natives exert the strongest influence on settlement patterns among both spousal and employment admissions, those entering through employment sponsorship appear to depend on natives to a greater extent than spousal entrants in the 1990s. The influence of this variable declines significantly from 1982 to 1992 but remains the most important predictor among Indian immigrants.

Among Filipinos, native communities were as significant to settlement patterns across visa categories as they were for Indians in 1982 but this factor declined in significance by a large margin over the study period. In the case of those individuals entering through spousal sponsorship, natives remained the most important predictor of locational decision-making but median income had gained in significance by 1992. On the other hand, economic considerations were more important for employment entries by 1992.

Finally, with respect to the findings by immigrant sex, important differences again emerge between Indians and Filipinos. Among Indians, the variable “Natives” is most significant in both 1982 and 1992 for men and women but only in 1982 for Filipinos. Median income became the

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[7] Such a pattern of nativity-specific hiring in the nursing profession has been observed in a number of studies

most important predictor in 1992 for Filipinos but among men the predominance of this factor is less clear (the $R^2{}_p$ calculated for men is 0.4590 for median income and 0.4143 for fellow-natives) than for women (by 1992 introducing median income into the equation led to a 36.47% reduction in error variability for women with that value standing at only 26.17% for native communities).

The results by sex follow from those reported across occupations. Within the sample, engineers form the largest group of immigrant admissions among Indians (56.63% of the sample as reported in Table 3-1) while nurses provide the largest number of cases to the Filipino sample (76.47% of the Filipino sample). Significantly, males predominate most heavily among Indian engineers while females overwhelmingly outnumber males among Filipino nurses. If both occupations exhibit the pattern of occupational clustering then the results appear sensible. The trends observed would therefore most likely reflect the skew in distribution favoring male Indian engineers and female Filipino nurses and the patterns inherent to these two groups.

DISCUSSION AND CONCLUSIONS

This chapter sought to identify which resources in the destination area play the greatest role in determining where immigrant professionals initially decide to settle. Although resources include the information and aid available in both the sending and receiving societies in this paper, emphasis was placed on conditions in the receiving country and how they determine patterns of settlement across the U.S. These are important issues since, as Grieco (1998) has noted, greater ethnic

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(Ong and Azores 1994; Bashi 1997).

concentration in immigrant settlement patterns may lead to isolated immigrant communities which could, in turn, affect adaptation to the host society.

For comparison purposes, the analysis focused on two sending countries; India and the Philippines and four occupations; physicians, nurses, engineers and scientists. These choices reflect the substantial numbers of foreign-born persons admitted under these occupational categories and the high representation of Indians and Filipinos in these groups. The research examined the impact of occupation-specific unemployment rates, ethnic-specific population sizes and income levels and average temperatures on the number of immigrants choosing each state as their area of intended residence in 1982 and 1992.

The results indicate that in the early 1980s and 1990s, the presence of native communities had a significant impact on the settlement decisions of recent immigrants but that employment prospects (in the form of potential income) proved the most essential in that process. These findings appeared more true for Filipinos than for Indians, however, with the latter more reliant on co-ethnics for aid in residential decision-making. Significantly, both groups relied most heavily on fellow-natives in the 1980s but by the 1990s, employment conditions overtook natives as the most important factor among Filipinos. Finally, in addition to differences by ethnic groups, the regression results suggest important distinctions in the role of resources by occupation, admission class and immigrant sex.

An earlier study (Vasegh-Daneshvary et al. 1986), conducted using the 1980 PUMS files, obtained similar results when Asians were examined as a cohesive group. These authors found that the existence of Asian communities were important to the settlement patterns of Asian immigrants but that employment opportunities were actually more significant than co-ethnics. The results of this analysis confirm these findings but only among Filipinos and not until the 1990s. The discrepancies likely originate from the more specific approach taken in this analysis. Not only does this chapter focus on specific Asian groups but it also uses more ethnic-specific employment measures.

Several explanations were offered to account for the finding that ethnic communities were initially so important to settlement patterns of immigrants. One suggestion was that professionals choose their initial state of residence as part of the development of ethnic niches in particular occupations. Patterns of nativity-specific recruitment and hiring have been observed within the nursing profession and may exist within the field of engineering as well. This would be possible if fairly formalized channels of recruitment operate internationally to recruit individuals wishing to enter the U.S. and would be even more likely to occur among those already resident in the U.S. (e.g., non-immigrants who enter the United States as students) who wish to become permanent residents. If this explanation holds then professionals may settle in areas of ethnic- and occupation-specific concentration with less concern for general employment prospects.

A second explanation attempts to account for the differences observed between Indians and Filipinos. Past studies suggested that Indians relied more on employment sponsors to gain entry to the U.S. immediately following the passage of the 1965 Amendments due to the small numbers of Indians resident in the U.S. at that time and the subsequent lack of sufficient potential family sponsors. Filipinos, on the other hand, had a larger pool of possible family and employment sponsors from which to choose. The importance of co-ethnic communities stems not only from their significance as immigrant sponsors, however, but also as sources of aid and support. It is possible that settlement patterns follow a cycle as ethnic communities develop. As a community becomes more established, reliance on co-ethnics increases (e.g., fellow-natives may offer more precise information in a more efficient manner than governmental or other formalized information sources) but once the size of the ethnic population reaches a critical level, that reliance decreases. Filipinos may simply be further advanced in this cycle than Indians due to their longer tenure in the U.S.

The findings have important implications for the use of networks among professionals. First, they suggest that separate types of network ties are elicited for entering the United States and for subsequently adapting to American society. A particular immigrant may utilize weak ties to an employer to gain entry but then make use of strong ties to co-ethnics to settle and adjust to life in the destination country. This conclusion supports the idea that migrant networks are really comprised of a variety of ties which become useful at various stages of the immigration process.

Second, the data indicate which resources are most pertinent to professionals' migration, however, they do not provide the necessary evidence for determining how those resources are utilized in practice. The research may suggest important influences from co-ethnics but cannot adequately answer the question of exactly what type of aid they provide to immigrants. A better understanding of these effects would offer important insights on successful adaptation to a host society. In addition, based on these data, there is no way to tell at which point in the immigration decision-making process these resources become useful. Since employment-based immigrants must obtain a job offer prior to their arrival, the influence most likely derives at the recruitment stage but the same need not hold for spousal entries. Differences likely exist, as pointed out earlier, between status adjustors and new arrivals in this respect. Understanding the chronological development and use of resources would provide important evidence of network development.

The findings suggest, overwhelmingly, a need for further inquiry into the topic of resource utilization in network development and in the immigration process. In particular, the results indicate a need further research at the individual level to determine how exactly resources are used, at what point in the immigration process they become most useful, how individual circumstances (i.e., occupation, admission status, etc.) lead to differences in resource use and how resources affect immigrant adaptation. Specifically, it is important to find some way to address the question of whether professionals actually settle in concentrated communities or not since previous work suggests this does not occur. Many of these questions require research through personal surveys since the existing national level data sets do not contain the relevant information to adequately address these issues.

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