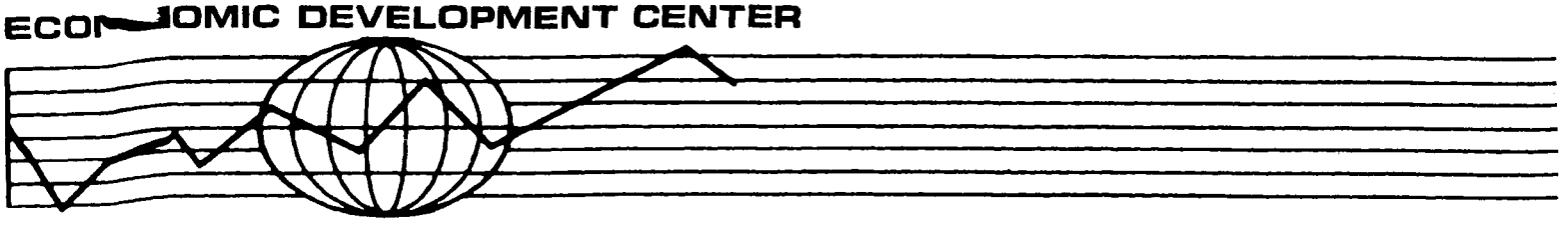
Bulletin Number 85-4

June, 1985




# WHAT'S IN A NAME? COUNTRY-OF-ORIGIN INFLUENCES ON THE EARNINGS OF IMMIGRANTS IN THE UNITED STATES

Guillermina Jasso

Mark R. Rosenzweig

ECONOMIC DEVELOPMENT CENTER
Department of Economics, Minneapolis
Department of Agricultural and Applied Economics, St. Paul

UNIVERSITY OF MINNESOTA

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University of Minnesota

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The question of how foreign-born residents in the United States and their immediate descendants differ with respect to labor-market behavior and earnings has long concerned social scientists as well as policy-makers engaged in formulating U.S. immigration policy. Studies which have described immigrant cohorts, assessed the progress of immigrants in the United States, and examined the role of ethnicity in labor-market behavior have assigned to country of origin a prominent part. The measured differences in earnings across country-of-origin groups in the United States have been hypothesized to be related, implicitly or explicitly, variously to (i) labor-market discrimination (e.g., Reimers (1983)), (ii) differences in preferences for certain jobs, and (iii) constraints and incentives for immigration. While Chiswick (1978, 1985) has advanced a number of hypotheses regarding how immigration law and the similarity of a country of origin to the United States may influence the "quality" distribution of immigrants, empirical research has exclusively focused on the "effects" of named origin countries rather than on the interrelationships among specific country-of-origin characteristics and immigration behavior (Borjas (1984); Chiswick (1985)). The root causes of earnings differences across such groups have thus not been disentangled.

In this paper, we focus on the migration-related processes that may lead to the well-documented differences in earnings and in naturalization rates across country-of-origin groups in the United States. Our theoretical framework examines how the forces of selectivity associated with the decisions by residents of non-U.S. countries to migrate to the United States and with the decisions by foreign-born U.S. residents to remain in the United States are influenced by country conditions and are reflected ultimately in the

observed earnings differences among the "survivors" of these processes who are enumerated in U.S. sample surveys. In particular, we assess how economic conditions, origin-country attractiveness, costs of migration, the quantity and quality of information, and the country-specific restrictions of U.S. immigration law influence both who migrates to and, among the migrants, who remains in the United States.

The framework is applied to two U.S. data sets, a sample of the foreign-born in the 1980 Census and a sample from the 1971 cohort of legal immigrants. These microdata sets are merged with data describing the characteristics of the origin countries using the country-of-origin information provided in the micro files. Our results, based on measures of both occupational attainment and wage rates, indicate that almost all named country-of-origin differences in naturalization rates and in earnings are eliminated when differences in country characteristics influencing migration and re-migration decisions are taken into account. In particular, the well-documented lower wage rates and naturalization propensities of the Mexican foreign-born compared to other foreign-born groups are evidently completely explained by variables associated with migration costs and home-country economic conditions. Our results also suggest that the selectivity associated with immigration rather than that with re-migration or emigration is most important in determining the distribution of earnings across country-of-origin groups in the United States, at least for the foreign-born from the Eastern Hemisphere.

## I. THEORETICAL FRAMEWORK

Foreign-born persons resident in the United States at a point in time represent, for the most part, the subset of persons from their home country who decided and were able to emigrate to the United States and who also had not yet decided (or carried out the decision) to leave the United States after entry. Thus, the observed characteristics (earnings, age, etc.) of the U.S. foreign-born reflect two decisions -- to immigrate to the United States and to remain in the United States. To the extent that such decisions are based on a comparison of U.S. and home-country conditions, as these influence the relative well-being of the potential immigrant, the personal characteristics of foreign-born U.S. residents will be correlated with their origin-country characteristics.

Consider first the decision by a person born abroad to migrate to the United States in period 1, given the feasibility of such a move within the constraints of U.S.immigration law (and of the origin-country's emigration restrictions, if any). Let maximum well-being in the home country $V^H$ be a function of the potential immigrant's income $Y^H$ and the amenities of the home country $\xi^H$;[1] i.e.,

$$(1) \qquad V^H = V(Y^H, \xi^H).$$

The potential immigrant's perceived post-move maximum well-being in the United States, based on his/her information set $\Omega$ , is given by,

$$(2) \qquad V^{US} = V(Y^{EUS}(\Omega), \xi^{US}),$$

where $Y^{EUS}$ = expected income in the U.S., C is the cost of moving, and $\xi^{US}$ are U.S. conditions relevant to the immigrant's well-being.[2] The individual decides to move when expected maximum post-migration U.S. well-being exceeds

the maximum well-being from remaining at home; i.e., when

$$(3) \qquad \delta_1^E = V^{US} - V^H > 0 .$$

To ascertain how conditions in the home country are related to the characteristics of the groups of foreign-born who come to the United States, via the immigration decision, we utilize the concept of the "marginal migrant," that person who is just indifferent between staying home and immigrating, i.e., for whom $\delta_1^E = 0$ (Rosenzweig and Wolpin (1984)). The expected U.S. incomes of the marginal migrants from different countries are perfectly positively correlated with the mean expected U.S. income of the migrants from those countries. By altering $Y^H$, C and $\xi^H$, we can assess how the expected U.S. income of the marginal migrant must change, and, therefore, how the mean expected U.S. income of migrants are related to origin-country conditions.

Total differentiation of (3), with $d\delta_1^E = 0$, yields the following relationships:

$$(4) \qquad dY^{EUS}/dY^H = V_Y^H/V_Y^{US} > 0,$$

$$(5) \qquad dY^{EUS}/dC = 1,$$

$$(6) \qquad dY^{EUS}/d\xi^H = V_\xi^H/V_Y^{US} > 0,$$

where $V_i = \delta V/\delta \xi$ .

Expressions (4) through (6) indicate, respectively, that: First, for given migration costs and home-country characteristics, the higher the

marginal migrant's home-country income the higher must be his or her expected U.S. income. Thus, the U.S. foreign-born from countries in which persons, of given characteristics, are able to earn relatively high incomes, will, on average, have relatively high earnings in the United States, as long as realized and expected U.S. income are positively correlated (see below). Second, for given income in the home country, migrants from locations associated with high migration costs will have, on average, higher earnings in the United States than other immigrants, as higher U.S. earnings are required to compensate for such costs. Finally, for given home-country incomes and costs of migration, migrants from more "attractive" countries will on average have (require) higher U.S. earnings compared to other immigrants.

Given that information is imperfect (costly), each immigrant's expected and realized post-immigration U.S. incomes may diverge. We assume that realized U.S. incomes of a country-of-origin group will be related to their pre-immigration information set. Persons in countries with highly imperfect information will make more errors in their migration decisions. In particular, some individuals will underestimate $Y^{EUS}$ and therefore not migrate to the United States even though they would have realized a net gain by migrating, while some other individuals will mistakenly migrate, having overestimated $Y^{EUS}$. Therefore, a migrant group from a low-information country is likely to have lower mean realized earnings in the United States than an otherwise similar migrant group from a country with generally superior information about the United States.

For the subset of immigrants whose U.S. incomes fall short of expectations, given unchanged home-country circumstances, a return home may be

optimal. Such U.S. immigrants compare realized well-being in the United States with post-return well-being at home. They re-migrate if

$$(7) \qquad \delta_2 = V(Y^{RUS}(\Omega), \xi^{US}) - V(Y^H - C, \xi^H) < 0.$$

We can ascertain how the realized incomes of the U.S. foreign-born are related to home country characteristics via return migration by again using the concept of the marginal migrant, this time defining the marginal <u>return</u> migrant, for whom $\delta_2 = 0$ (and for whom $Y^{RUS} < Y^{EUS}$). It can be easily shown that

$$(8) \qquad dY^{RUS}/dY^H = V_Y^H/V_Y^{US} > 0,$$

$$(9) \qquad dY^{RUS}/dC = -V_Y^H/V_Y^{US} < 0,$$

$$(10) \qquad dY^{RUS}/d\xi^H = V_\xi^H/V_Y^{US} > 0.$$

Expressions (8) and (9) indicate that with respect to origin-country income potential and origin-country attractiveness, re-migration decisions reinforce immigration selectivity: only (expected) high-U.S. income individuals immigrate from high-income and otherwise attractive origin-countries and only those among them with high realized U.S. incomes remain in the United States. However, while high migration costs act as a barrier to immigrants with low expected U.S. incomes (expression (5)), such costs also make it less profitable for immigrants with relatively low realized incomes in the United States to return (expression (9)), given home-country earnings. The relationship between migration costs and the observed earnings of the

foreign-born in the United States is thus ambiguous, but is more likely to be positive the less imperfect is pre-immigration information about the United States held by immigrants.

## II. DATA

### A. Country-of-Origin Characteristics

As indicated above, characteristics of the origin country are reflected in the earnings (and the characteristics) of the U.S. foreign-born inasmuch as such characteristics influence who among the origin populations immigrate and who among the immigrant population remains in the United States. In particular, earnings of the U.S. foreign-born differ by origin-country to the extent that the opportunity costs of migration, the direct costs of migrating, and the quantity and quality of information available about the United States vary across countries. To test the hypothesis that differences among the foreign-born by named countries of origin are fundamentally differences associated with these three factors, we assembled a set of country-specific variables, including the country's distance from the United States, its GNP per-capita, its literacy and inflation rates, whether or not the Voice of America (VOA) broadcasts to the country in one of its native languages, whether or not English is an official and/or principal language, whether or not the country's economy is centrally planned and its government authoritarian, whether or not the country has one or more U.S. military bases, the number of persons from the country residing in the United States, and the number of naturalized citizens from the country in the United States.

The country variables were selected according to two criteria: (i)

potential importance in determining opportunity costs, direct migration costs, and country-specific information about the United States; and (ii) availability of data on the characteristic for most of the origin countries represented in the U.S. foreign-born population in recent decades. The variables listed are available for 87 countries, representing the countries of origin for over 92 percent of the adult, foreign-born U.S. population in 1980 (based on the 1980 Census).

To predict the influence of the specific country-characteristic variables on the observed earnings of the U.S. foreign-born, it is necessary to specify how each variable measures or influences the major determinants of the migration decisions as depicted in expressions (4) through (6) and (8) through (10), viz., how each is related to home-country earnings potential and attractiveness, migration costs, and information. We specify the following functional relationships:

(11) $Y^H = Y$(per-capita GNP, literacy rate)

(12) $\xi^H = \xi$(centrally planned, inflation rate)

(13) $C = C$(distance, number of citizens from country, U.S. bases)

(14) $\Omega = \Omega$(distance, bases, VOA, English, number of persons from country, lit.),

where $Y_1 > 0$, $Y_2 < 0$; $\xi_1$, $\xi_2 < 0$; $C_1 > 0$; $C_2$, $C_3 < 0$; $\Omega_1 < 0$; $\Omega_2$, $\Omega_3$, $\Omega_4$, $\Omega_5$, $\Omega_6 > 0$.

In expression (11), we assume that among countries with a given level of literacy, higher levels of per-capita GNP indicate that returns to skills are more highly rewarded; opportunity costs of migration to the United States are thus relatively high for migrants from high-GNP countries. For given levels of income, however, higher levels of literacy must be associated with lower returns to skills and lower opportunity costs for the skilled. Thus, while

only relatively high-income individuals will immigrate and remain in the United States from high-GNP countries, the opposite may be true for high literacy countries (for given per-capita GNP levels). We also assume, in expression (12), that centrally-planned, authoritarian countries are relatively unattractive (for given economic and social conditions) as are high inflation rates; immigrants from such countries would thus exhibit, ceteris paribus, lower earnings in the United States, as they would require less favorable economic returns in the United States to immigrate or to remain.

Relation (13) incorporates the conventional notion that distance is an important determinant of the direct costs of migration. The migration-cost function also reflects the constraints and opportunities associated with U.S. immigration law. During the historical period on which this research focuses, U.S. immigration law has facilitated the entry of the foreign-born spouses, parents, and minor children of adult U.S. citizens. However, from 1965 to 1978 the law provided additional opportunities for the immigration of Eastern-Hemisphere relatives of U.S. citizens and immigrants (e.g., siblings of U.S. citizens, spouses of immigrants, and adult children of U.S. citizens and immigrants). Thus, for persons residing in the Eastern Hemisphere who have relatives in the United States, migration barriers are significantly lower, a more likely occurrence the higher the number of U.S. citizens and immigrants from the individual's country. The stock of immigrants would be irrelevant and the stock of naturalized citizens less relevant, however, for natives of Western-Hemisphere countries, to whom (numerically-limited) visas were allocated on a first-come/first-served basis subject to screening by employment criteria (labor certification).

As noted above, an important feature of U.S. immigration law is that it permits the unlimited immigration of the foreign-born spouses of U.S. citizens. Thus, a side effect of placing a U.S. military base in a given country is to increase opportunities for citizens of that country to immigrate. Accordingly, residents of countries with large numbers of emigrants who became naturalized citizens of the United States or which host U.S. military bases face lower direct immigration costs than do inhabitants of other countries and thus do not "require" as high economic returns to immigration; they should be characterized by lower earnings, ceteris paribus, relative to U.S. immigrants from other countries.

While a country's distance from the United States serves to screen for high-earnings immigrants (to the extent that distance adds to the costs of migration), if distance also impedes information dissemination, then immigrants from more distant countries may also be less informed about the United States and a higher proportion may have low realized earnings. Moreover, distance also serves as an impediment, symmetrically, to return migration, as noted above. Thus, immigrants who are from distant countries and who have low realized incomes are more likely to remain in the United States. Other characteristics of countries that we assume to facilitate information dissemination and thus lead to fewer low-outcome immigrants are whether or not the VOA broadcasts in one of the country's languages, whether or not English is an official or prevalent language, the literacy rate, and the number of individuals from the country in the United States, who may be an important information source for new, potential immigrants. A U.S. military base may also serve as a source of information about the United States to

residents of the host country; the net association between the presence of a U.S. base and the realized incomes of the emigrants from that country, given relation (13), is thus ambiguous.

### B. Samples of the U.S. Foreign Born

To study the relationships between the origin-country characteristics and the earnings of the U.S. foreign-born, information on earnings of the foreign-born, their country of origin, and length of stay in the United States is required. We use two micro-data files, which are merged with the set of country-specific variables. The first is a ten-percent simple random sample of foreign-born males aged 21 to 65 years who reported entering the United States between 1970 and 1980, drawn from the 5:100 A-Sample of the Public Use Tapes of the 1980 Census. The Census has been a principal data source for studies of differences in earnings among country-of-origin and ethnic groups. This cross-sectional data base, however, has two limitations. First, the foreign-born population is heterogeneous in legal status, a mixture, in unknown proportions, of legal immigrants (permanent resident aliens), of legal holders of a variety of non-immigrant visas, and of deportable aliens (including persons who overstayed or otherwise failed to comply with the terms of a legal non-immigrant visa). Since statutory visa status is associated with important employment constraints which will affect earnings (Jasso and Rosenzweig (1985)) and since the composition of the foreign-born may differ significantly by country-of-origin, some of the associations between country characteristics and foreign-born earnings may be obscured by such heterogeneity. Second, the Census data do not permit separate analyses of emigration and immigration; foreign-born entry cohorts represented in a given

year are the survivors of original entrants.

The second data set we employ is a one-in-one-hundred sample of men aged 21 to 65 admitted to permanent resident status in Fiscal Year 1971, drawn from the Immigration and Naturalization Service's (INS) new-immigrant file for that year. The immigrant file includes information on age, date of admission to permanent residence, country of birth, whether or not the immigrant is adjusting status from a non-immigrant status, and, if so, the date of admission to that non-immigrant status. We have linked the new-immigrant records with the INS naturalization files so that for those members of the cohort sample who naturalized between July 1971 and February 1981, inclusive, data include as well the date of naturalization and occupation at the time of naturalization.

The advantages of the longitudinal INS data are that (i) the sample is homogeneous in legal status, (ii) time in a legal status is more precisely defined compared to the Census, and (iii) the determinants of the original entry cohort's decisions to naturalize can be estimated, permitting the identification of both the immigration and re-migration linkages between the earnings of immigrants who remain in the United States and their country-of-origin. This data base has two limitations, however. First, the data do not provide measures of wages or earnings, only of occupation. Second, while the data provide information on naturalization for the entire cohort sample, they provide longitudinal information on occupation only for the sub-set who naturalize. Thus, to estimate the determinants of economic status from these data requires the construction of a measure of the earnings associated with an occupation as well as attentiveness to the selectivity associated with the

decision to naturalize.

Occupation in the INS data is recorded by the three-digit code used in the 1970 U.S. Census. These detailed occupational titles can be classified into 53 occupation groups (U.S. Bureau of the Census 1982, Table 58). We use this information to construct a cardinal measure of occupational attainment in which each occupation is represented by the log of the mean earnings of full-time, year-round male workers in the occupation group. To ensure that all observations are in constant dollars, all occupations were coded by the mean earnings in 1979. To assess comparability with the Census, we also constructed this same measure of occupational earnings for the 1980 Census sample.

The INS data enable construction of an exact measure of experience as a permanent resident and a less precise measure of pre-immigration experience. Post-immigration experience is measured by the length of the period between the date of admission to permanent residence and the date of naturalization. Pre-immigration experience is measured by the length of the period between the date of admission to permanent residence and the date of admission to prior non-immigrant status. In 1971, U.S. law did not permit status adjustment for natives of Western-Hemisphere countries who were entering under "normal-flow" immigration procedures. Thus, the only natives of the Western Hemisphere adjusting status in the INS sample are Cuban persons "paroled" into the United States during the political upheavals of the early 1960s. Our measure of pre-immigration U.S. experience hence ignores the pre-immigration U.S. experience of all other natives of the Western Hemisphere and ignores as well experience not immediately prior to immigration and experience in an illegal status.

Table 1 contains the definitions of the country-specific variables and documents some of the considerable variation in these characteristics by major "sending" areas and countries. Table 1 also suggests important compositional differences between the INS and Census samples with respect to country of origin. For example, Japan contributes six of the 584 Eastern-Hemisphere INS male immigrants, or approximately one percent, but 64 of the 970 Eastern-Hemisphere Census foreign-born males, or about 6.6 percent; Mexico contributes 28 percent of the Western-Hemisphere INS sample, but 61 percent of the comparable Census sample. These results suggest that the ratio of immigrant-visa-holders to non-immigrant-visa-holders or non-visa holders is not constant across origin countries, suggesting, in turn, that countries differ in the extent to which their nationals are constrained in the labor market (Jasso and Rosenzweig (1985)).

Table 2 reports the means and standard deviations of the principal characteristics of the men in the Census and INS samples, stratified by Hemisphere. A notable feature, revealed in the INS sample, is the difference between the two Hemispheres in the propensity of immigrants to naturalize, a difference that might be anticipated given that the right to petition for (non-immediate) relatives was until 1978 essentially confined to Eastern-Hemisphere naturalized citizens. Of the 584 Eastern-Hemisphere immigrants, 278, or almost half, had naturalized by early 1981. In contrast, of the 337 Western-Hemisphere immigrants, only 71, or 21 percent, had done so. Indeed, the small number of Western-Hemisphere naturalized persons makes it impossible to estimate a model of economic status using the Western-Hemisphere sub-set of the INS sample.

Table 1

Characteristics of Countries-of-Origin of U.S. Immigrants and the U.S. Foreign-Born, 1971 INS and 1980 Census Samples[a]

| | | | Eastern Hemisphere | | | | | Western Hemisphere | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Variable | Total[b] | Europe[b] | Taiwan + Hong Kong | India | Japan | Philippines | Total[b,c] | Mexico | Canada | Cuba | Brazil |
| GNP per-capita, 1970 ($) | 2063 | 3537 | 1331 | 156.3 | 5274 | 370.5 | 1264 | 1100 | 7113 | 551.0 | 993.9 |
| Literacy Rate, percent, 1975 | 77.9 | 92.4 | 85.6 | 36.0 | 99.0 | 87.0 | 76.2 | 76.0 | 98.0 | 96.0 | 72.0 |
| Distance to U.S., miles | 5237 | 4031 | 7115 | 7959 | 5149 | 7334 | 620 | 0 | 0 | 235 | 4249 |
| English a principal or official language | .490 | .174 | .448 | 1 | 0 | 1 | .120 | 0 | 1 | 0 | 0 |
| U.S. military base present | .360 | .328 | 0 | 0 | 1 | 1 | .050 | 0 | 0 | 0 | 0 |
| Centrally-planned economy | .092 | .157 | 0 | 0 | 0 | 0 | .076 | 0 | 0 | 1 | 0 |
| Receives VOA broadcasts in native language | .820 | .626 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Inflation rate, percent per year, 1970-78 | 11.7 | 11.1 | 9.1 | 8.2 | 9.6 | 13.4 | 19.1 | 17.5 | 9.4 | 0.0 | 30.3 |
| Number of persons from country in U.S. in 1970, arrived 1965-70 | 26538 | 32064 | 10050 | 25100 | 26200 | 52800 | 68100 | 101300 | 58100 | 115200 | 1250 |
| Number of naturalized U.S. citizens from country in 1970, arrived 1955-65 | 10581 | 18049 | 3500 | 3000 | 14100 | 13200 | 51307 | 80800 | 52900 | 66800 | 575 |
| Sample number, Census foreign-born, arrived 1970-1980 | 970 | 396 | 67 | 130 | 64 | 154 | 1210 | 737 | 54 | 92 | 18 |
| Sample number, 1971 INS immigrant cohort | 584 | 294 | 13 | 86 | 6 | 63 | 337 | 96 | 34 | 55 | 3 |

a. Foreign-born in the Census who arrived between 1970 and 1980.
b. Country characteristics weighted by foreign-born populations represented in Census sample described in note a.
c. Caribbean countries except Jamaica and Tobago excluded because of missing comparable information.

Table 2

Characteristics of Immigrants and the Foreign-Born,
by Sample and Hemisphere

| | Eastern Hemisphere | | Western Hemisphere | |
|---|---|---|---|---|
| | 1971 | | 1971 | |
| Variable/Sample: | INS Cohort | 1980 Census | INS Cohort | 1980 Census |
| Age, years | 33.4 | 35.7 | 34.8 | 31.6 |
| | (9.47) | (10.4) | (10.9) | (9.19) |
| Black | --[a] | .0381 | --[a] | .2909 |
| | | (.192) | (.288) | |
| Pre-immigration U.S. experience, years | 1.02 | --[c] | .538 | --[c] |
| | (1.96) | | (1.38) | |
| Post-immigration U.S. experience, years[b] | 6.49 | --[c] | --[d] | --[c] |
| | (1.49) | | | |
| Entered the U.S. 1970-74 | 1.0 | .523 | 1.0 | .490 |
| | (0.0) | (.499) | (0.0) | (.500) |
| Occupational earnings (log) | -- | 9.822 | -- | 9.578 |
| | | (.416) | | (.328) |
| Hourly wage (log) | --[a] | 1.853 | --[a] | 1.504 |
| | | (.753) | | (.725) |
| Occupational earnings at naturalization[b] | 10.001 | --[c] | --[d] | --[c] |
| Sample size | 584 | 970 | 337 | 1210 |

a. Not available for INS sample.
b. For subset of immigrant sample who naturalized by 1981; n = 278 for Eastern Hemisphere imigrants.
c. Not available from Census.
d. Sample size too small for multivariate analysis n = 71).

## III. EMPIRICAL RESULTS

### A. Census Sample

Tables 3 and 4 report estimates by Hemisphere of the determinants of two measures of earnings attainment -- the log of mean full-time earnings in the individual's occupation and the log of the hourly wage rate -- for three specifications, based on the Census sample. In the first, country-of-origin influences are represented exclusively by proper-name dummy variables. In the second specification, the origin-country characteristic variables are added, and in the third specification the name dummy variables are excluded. Comparison of the estimates from the first and second specifications permits a test of the hypothesis that the country-dummy coefficients are merely proxies for the operation of country-of-origin influences on migrant selectivity, since if the country characteristics we have measured capture these factors to a significant extent, their inclusion in the second specification should reduce or even eliminate earnings differences across named foreign-born groups.

The regressors included in all of the Census-based occupational-earnings and wage equations to characterize personal attributes are the individual's age and its square and dummy variables indicating the individual's race and whether the person entered the United States between 1970 and 1974. The country characteristics included to capture the operation of origin-country conditions and U.S. immigration-law factors which influenced the decision to migrate as well as the accuracy of the immigrant's predictions about life in the United States are those listed in Table 1, except that the Western-Hemisphere specifications exclude VOA broadcasts, since all countries in that

Table 3

Determinants of Log of Occupational Earnings and Wage Rates: U.S. Foreign-Born Males from the Eastern Hemnisphere, Census Sample[a]

| | Log of Occupational Earnings | | | Log of Hourly Wage | | |
|---|---|---|---|---|---|---|
| Variable | (1) | (2) | (3) | (1) | (2) | (3) |
| Age | .0653 | .0654 | .0654 | .0994 | .0982 | .0969 |
| | (7.64) | (7.67) | (7.70) | (5.83) | (5.78) | (5.74) |
| Age squared | -.000794 | -.000788 | -.000790 | -.00116 | -.00114 | -.00113 |
| | (7.53) | (7.49) | (7.54) | (5.47) | (5.40) | (5.37) |
| Immigrated 1970-74 | .00815 | -.00166 | .00474 | .176 | .200 | .200 |
| | (0.32) | (0.06) | (0.18) | (3.50) | (3.92) | (3.93) |
| Black | -.183 | -.173 | -.187 | -.217 | -.431 | -.283 |
| | (2.57) | (1.77) | (2.55) | (1.49) | (2.20) | (1.72) |
| Europe | -.183 | -.0759 | -- | -.00624 | -.107 | -- |
| | (5.16) | (1.12) | | (0.09) | (0.79) | |
| Taiwan, Hong Kong | -.0227 | .0224 | -- | -.0543 | .0695 | -- |
| | (0.39) | (0.31) | | (0.47) | (0.48) | |
| India | .0289 | .0130 | -- | .0962 | .0142 | |
| | (0.64) | (0.15) | | (1.08) | (0.08) | |
| Japan | -.105 | -.0374 | -- | .0899 | -- | |
| | (1.73) | (0.38) | | (0.75) | (0.33) | |
| Philippines | -.217 | -.166 | -- | -.0432 | .168 | -- |
| | (4.83) | (1.79) | | (0.51) | (0.78) | |
| GNP, 1970 ($\times 10^{-4}$) | -- | .257 | .244 | -- | .942 | .836 |
| | | (2.24) | (3.24) | | (4.31) | (4.58) |
| Literacy Rate | -- | -.00169 | -.00166 | -- | -.00693 | -.00509 |
| | | (1.08) | (2.06) | | (2.25) | (2.90) |
| Distance ($\times 10^{-4}$) | -- | .365 | .325 | -- | .0388 | .0257 |
| | | (2.28) | (2.90) | | (1.84) | (1.17) |
| English language | -- | .0294 | .0570 | -- | .0678 | -.0517 |
| | | (0.63) | (1.30) | | (0.73) | (0.67) |
| U.S. military base | -- | -.0492 | -.0457 | -- | -.0389 | -.0109 |
| | | (1.12) | (1.26) | | (0.48) | (0.15) |
| Centrally-planned | -- | -.0660 | -.0860 | -- | .0925 | .0449 |
| | | (1.01) | (1.58) | | (0.73) | (0.42) |
| VOA broadcasts | -- | .0825 | .0491 | -- | .0278 | .0578 |
| | | (2.08) | (1.27) | | (0.31) | (0.74) |
| Foreign-born in the U.S. ($\times 10^{-3}$) | -- | -.220 | -.271 | -- | .186 | .416 |
| | | (0.83) | (1.81) | | (0.36) | (1.49) |
| Naturalized citizens in the U.S. ($\times 10^{-4}$) | | (1.10) | .833 | -- | -2.30) | -7.10 |
| | | (0.29) | (0.32) | | (0.31) | (1.36) |
| Constant | 8.71 | 8.57 | 8.45 | -.349 | .165 | -.340 |
| | (52.8) | (37.3) | (41.3) | (1.06) | (0.36) | (0.87) |

a. t-ratios in parentheses beneath regression coefficients.

Table 4

Determinants of Log of Occupational Earnings and Wage Rates: U.S. Foreign-Born Males from the Western Hemisphere, Census Sample[a]

| Variable | Log of Occupational Earnings (1) | (2) | (3) | Log of Hourly Wage (1) | (2) | (3) |
|---|---|---|---|---|---|---|
| Age | .0231 | .0220 | .0220 | .0296 | .0274 | .0276 |
| | (3.73) | (3.58) | (3.51) | (1.95) | (1.83) | (1.84) |
| Age squared | -.00320 | -.000307 | -.000286 | -.00352 | -.000328 | -.000320 |
| | (3.91) | (3.78) | (3.46) | (1.76) | (1.65) | (1.62) |
| Immigrated 1970-74 | .00645 | .00945 | .0195 | .153 | .168 | .174 |
| | (0.36 | (0.53) | (1.09) | (3.16) | (3.84) | (4.02) |
| Black | .0152 | -.00443 | .0164 | -.209 | -.306 | -.217 |
| | (0.45) | (0.10) | (0.41) | (2.57) | (2.78) | (2.34) |
| Mexico | -.169 | -.106 | -- | -.163 | -.0635 | -- |
| | (7.76) | (2.01) | | (3.05) | (0.48) | |
| Canada | .307 | .0264 | -- | .677 | -.0932 | -- |
| | (6.48) | (0.10) | | (5.99) | (1.36) | |
| Cuba | .0585 | .153 | -- | .0209 | .263 | -- |
| | (1.47) | (1.94) | | (0.21) | (1.37) | |
| Brazil | .157 | .0191 | -- | .148 | -.0832 | -- |
| | (2.10) | (0.22) | | (0.71) | (0.35) | |
| GNP 1970 ($\times 10^{-4}$) | -- | .566 | .452 | -- | 2.58 | .863 |
| | | (1.20) | (3.71) | | (2.15) | (3.03) |
| Literacy Rate ($\times 10^{-3}$) | -- | -.254 | 1.04 | -- | -.551 | 4.13 |
| | | (0.17) | (1.33) | | (0.16) | (2.19) |
| Distance ($\times 10^{-5}$) | -- | .690 | 1.05 | -- | 1.20 | 1.35 |
| | | (2.23) | (8.43) | | (1.59) | (4.43) |
| English language | -- | .00995 | .0896 | -- | .173 | .212 |
| | | (0.14) | (1.48) | | (0.99) | (1.50) |
| U.S. military base | -- | -.0627 | -.0120 | -- | .00822 | .00533 |
| | | (1.34) | (0.30) | | (0.07) | (0.06) |
| Constant | 9.26 | 9.17 | 8.98 | .800 | .475 | .238 |
| | (83.2) | (70.7) | (72.3) | (2.95) | (1.50) | (0.80) |

a. t-ratios in parentheses beneath regression coefficients.

Hemisphere receive native-language VOA broadcasts, and the foreign-born and naturalized-citizen stock variables, which represent sources of U.S. visa entitlements primarily for the Eastern Hemisphere (until 1978).[3]

In Table 3, which reports the Eastern-Hemisphere results, comparison of specifications (1) and (2) for occupational earnings indicates that inclusion of the set of country characteristics completely eliminates the influence of the country dummy variables. In the first specification, which excludes the country characteristics, the results suggest that, compared to the other foreign-born from the Eastern Hemisphere, those individuals from Europe, the Philippines and Japan are in occupations with significantly lower earnings, controlling for age and quinquennium of entry. However, all of these named-country differentials become statistically insignificant in the second specification which includes country-specific conditions. In contrast, the set of country-characteristic variables is statistically significant (F-test, 1 percent level).

All of the signs of the country-characteristic coefficients conform to the implications of our framework, although only three of eight are statistically significant at conventional levels. In particular, those migrants from high-GNP countries and from distant countries appear to be in high-earnings occupations, suggesting the importance of both opportunity and direct migration costs in migration decisions. Moreover, migrants from countries receiving VOA broadcasts appear to be in higher-earnings occupations, suggesting the possibility that such broadcasts provide useful information about the United States. Finally, there is marginal support for the hypothesis that migrants from less attractive centrally-planned,

authoritarian countries have lower occupational earnings.

The second set of specifications in Table 3 highlights the effects of origin-country influences on the foreign-born person's actual wage in the United States. The first-column estimates indicate that the named country of origin is not significantly associated with the wage of the Eastern-Henmisphere foreign-born. Thus, there is not much for the country characteristics to remove. However, the operation of the country characteristics in the third specification is qualitatively the same as for the measure of occupational earnings attainment, except for the effects of a centrally-planned economy and the two stock variables. Of these, only the latter approach statistical significance. These results hint at differences between the process of climbing the ocupational ladder and the process of increasing one's wage within an occupation.

Table 4 repeats the analyses of Table 3 for the Western-Hemisphere foreign-born in the Census sample. In the first specification of occupational-earnings excluding country characteristics, the coefficients for Mexico, Canada, and Brazil are strongly statistically significant, and that for Cuba approaches significance as well, indicating that Canadian and Brazilian males are significantly more likely to be in occupations with higher mean earnings compared to the left out group (non-blacks from all the remaining Hispanic countries in the Western Hemisphere), while Mexicans are in occupations with lower mean earnings compared to all the other Western-Hemisphere groups. Inclusion of the country characteristics eliminates the difference between foreign-born Brazilians, Canadians, and Hispanics and reduces the Mexico differential by 37 percent. However, the Cuba effect

almost triples. Thus, migrants from Mexico appear to be in occupations with mean earnings lower by 10 percent than all migrants, net of country characteristics, while migrants from Cuba are in occupations with mean earnings that are higher by 15 percent compared to all Western-Hemisphere migrants, even when country characteristics are taken into account.

The partial immutability of the negative Mexico occupational-attainment differential to the inclusion of country characteristics may reflect the operation of legal status, as a larger proportion of the Mexico-origin foreign-born, compared to other groups, may be in illegal status or may hold non-immigrant visas, as suggested by the differential in sample proportions for Mexicans in the immigrant and Census samples in Table 1. The anomalous positive occupational attainment of Cubans may in part reflect their initial special status as refugees, which made them beneficiaries of resettlement programs not provided to other foreign-born migrants.

The named country differentials in the hourly-wage specification excluding country characteristics conform to the pattern displayed in the comparable occupational earnings specification, with the negative Mexico and positive Canada wage effects again highly statistically significant. Here, however, inclusion of the country characteristics eliminates all country-specific differences; the set of country wage coefficients loses statistical significance when differences in country characteristics are accounted for, although, as in the occupational-earnings specifications, the positive Cuba "effect" increases (but not to statistical significance). Observed hourly-wage differences between the foreign-born Mexican population and other foreign-born populations, noted in almost all studies of immigrant or ethnic

earnings determination, thus appear to be wholly explained by Mexico's unique combination of two important factors determining who immigrates to and remains in the United States -- distance and per-capita GNP. These factors appear to be positively and significantly correlated with the wage and occupational earnings of the foreign-born from both Hemispheres. Of all countries, Mexico is, with Canada, the shortest distance from the United States, but, unlike Canada, has, in addition, relatively low per-capita income.

### B. INS Sample

The estimates from the Census samples indicate that observed earnings differences across country-of-origin groups in the United States can be in part or wholly accounted for by the differing characteristics of the countries from which the foreign-born have emigrated. Support for the hypothesis that the correlations between country attributes and the mean earnings of origin-specific groups arise out of the immigration and re-migration decisions of both non-U.S. residents and U.S. immigrants was also indicated. The Census data do not permit, however, an assessment of the relative importance of the two forces of selectivity -- that associated with immigration and that associated with re-migration -- since the foreign-born represented in the Census are the "survivors" of both filtering processes.

The INS data, as noted, allow us to observe the naturalization decisions of a complete immigration cohort from the time of their admission to permanent resident status. Since naturalization entails, for almost all immigrant groups, the relinquishing of rights in the origin country, the decision to naturalize presumably implies a commitment to remain in the United States (although not the reverse). Estimates of the determinants of naturalization

thus may provide information about how country-of-origin characteristics describing home country attractiveness, migration costs, and pre-immigration information influence the earnings characteristics of remaining immigrant groups defined by named countries via the selective re-migration of immigrants. Estimates of the determinants of the earnings of naturalized immigrants corrected for the selectivity associated with the naturalization decision then may permit identification of the forces associated solely with the immigration decision.

As discussed, the country characteristics most important in influencing the decision by an immigrant to remain in the United States are those that affect the accuracy of the immigrant's prediction about his own well-being in the United States and those affecting a new calculation about well-being in the origin country after immigration. Accordingly, we include in the naturalization equations, in addition to those origin-country variables used in the earnings and wage estimates, GNP in 1978, the average annual inflation rate in the period 1970 to 1978, and the quality of reception in the United States of the orign-country's shortwave broadcasts, as measured by the five-point SINPO rating scale, with five representing the highest quality. The first two are variables which could not have been perfectly forecast at the time of the decision to immigrate to the United States but which clearly might influence the decision to emigrate.

### 1. Naturalization Probabilities of Immigrants

Maximum-likelihood probit estimates of the naturalization equation estimated from the complete immigrant samples are reported in Table 5. In both Hemisphere-specific samples, age at admission to permanent resident

Table 5

Maximum-Likelihood Probit Estimates: Determinants of Naturalization, By Hemisphere, for the 1971 Cohort of Male Immigrants, INS Sample[a]

| Variable | Eastern Hemisphere | | Western Hemisphere | |
|---|---|---|---|---|
| Age at immigration | -.0280 | -.0327 | -.0159 | -.0206 |
| | (4.35) | (4.74) | (1.66) | (1.96) |
| Pre-immigration time in U.S. | .00784 | .00496 | -.0565 | -.0719 |
| | (0.26) | (0.15) | (0.57) | (0.64) |
| GNP, 1978 ($\times 10^{-3}$) | -- | .0792 | -- | -.948 |
| | | (1.00) | | (1.83) |
| Literacy rate | -- | .00921 | -- | .127 |
| | | (1.56) | | (2.24) |
| Distance ($\times 10^{-4}$) | -- | .0216 | | -.664 |
| | | (0.15) | | (1.64) |
| Inflation rate, 1970-78 ($\times 10^{-2}$) | -- | .535 | -- | .143 |
| | | (2.04) | | (1.54) |
| English language | -- | -.425 | | -1.36 |
| | | (2.21) | | (1.92) |
| Centrally-planned | -- | 1.34 | -- | -- |
| | | (2.44) | | |
| U.S. military base | -- | .373 | -- | 1.68 |
| | | (1.47) | | (2.23) |
| VOA broadcasts | -- | .567 | -- | -- |
| | | (2.57) | | |
| SINPO rating | -- | -.255 | -- | -.301 |
| | | (2.08) | | (1.34) |
| Number foreign-born in the U.S. ($\times 10^{-2}$) | -- | .233 | -- | -- |
| | | (1.86) | | |
| Number naturalized citizens in the U.S. ($\times 10^{-3}$) | -- | -.986 | -- | -- |
| | | (1.36) | | |
| Europe | -.840 | -.832 | -- | -- |
| | (5.81) | (2.05) | | |
| Taiwan, Hong Kong | .233 | .732 | -- | -- |
| | (0.57) | (1.19) | | |
| India | -.149 | .0115 | -- | -- |
| | (0.82) | (0.021) | | |
| Philippines | .535 | .0487 | -- | -- |
| | (2.46) | (0.11) | | |
| Mexico | -- | -- | -1.02 | -.270 |
| | | | (2.92) | (0.38) |
| Canada | -- | -- | -3.59 | 3.63 |
| | | | (0.27) | (0.20) |
| Cuba | -- | -- | 1.27 | -.267 |
| | | | (2.84) | (0.22) |
| Brazil | -- | -- | .220 | 3.83 |
| | | | (0.29) | (2.15) |
| Constant | 1.28 | -.15 | -.212 | -1.02 |
| | (5.19) | (0.02) | (0.63) | (0.83) |
| Chi-squared | 109.5 | 154.5 | 78.0 | 96.6 |

a. Asymptotic t-ratios in parentheses beneath the coefficients.

status is negatively, and highly statistically significantly, related to the decision to naturalize. This suggests that the longer the remaining life span the greater are the perceived returns to naturalization, both in the occupational sphere and through entitlements for the immigration of kin. Pre-immigration time in the United States is not significant in either Hemisphere.

In the Eastern-Hemisphere specification which excludes country characteristics, the Europe and Philippines dummy coefficients of the set of Eastern-Hemisphere named country dummy variable-coefficients are statistically significant. Natives of European countries appear to have a strongly lower propensity to naturalize than natives of other Eastern-Hemisphere countries, while natives of the Philippines exhibit significantly higher naturalization propensities. Inclusion of the country characteristics in the second specification eliminates the Philippines differential but the coefficient for Europe remains virtually unchanged and its statistical significance, although reduced, remains very high.

In the Western-Hemisphere subsample, there are also apparent significant differences among named-country groups in naturalization probabilities in the specification excluding country characteristics. In particular, the results from that specification replicate what is well known from published tabulations, that natives of Mexico have "very low" and natives of Cuba "very high" naturalization rates. Inclusion of the country characteristics, however, destroys both the Mexico and the Cuba differentials, and, indeed, changes the sign of the Cuba effect to negative. The coefficient for Canada remains insignificant. The coefficient for Brazil, on the other hand, becomes strongly statistically significant and its coefficient increases in magnitude

by a factor of about 17.

Thus, it would appear that the set of country characteristics we have included in the naturalization equations are capturing the operation of most, but not all, of the factors associated with named countries. The variables we measured (for example, GNP, a centrally-planned economy, distance, language, etc.) appear to account for the apparently distinctive naturalization behavior of immigrants from the Philippines, Cuba and Mexico; they only do not account for the distinctive behavior of Europeans. On the other hand, only when our measured country characteristics are "controlled for" do we find that it is the group of immigrants from Brazil that exhibit exceptionally high naturalization propensities.

The most important country-specific factors determining naturalization for Eastern-Hemisphere immigrants are those associated with information and country attractiveness, rather than migration costs or home-country income. While neither GNP nor distance is statistically significant, Eastern-Hemisphere immigrants from countries with a high inflation rate and with a centrally-planned authoritarian economy are, as expected, much more likely to naturalize. The better the reception in the United States of the origin-country's shortwave broadcasts, the lower the propensity to naturalize, suggesting that (net of other measured factors) countries with sophisticated broadcast equipment tend to be otherwise attractive as places to which to return. Also as predicted, natives of countries to whom the VOA broadcasts in a native tongue are more likely to naturalize, their decision to immigrate presumably having been better informed. On the other hand, coming from a country where English is widely spoken leads to a reduced propensity to

naturalize, suggesting that such countries, other things the same, may be attractive as places to live or have passports that are desirable to hold.

Literacy rate and the presence of U.S. military bases operate in the predicted direction, from the point of view of providing information about the United States, but do not reach high levels of statistical significance. In the case of the literacy rate, we noted that it operates in two opposing ways, not only being associated with the quality of information but also reflecting, for given per-capita GNP levels, lower returns to skills in the home country, and thus lower opportunity costs of immigration. While the operation of information appears to dominate, it does not do so strongly enough to yield high signficance.

The two variables describing the U.S. stock of co-nationals operate as predicted. Recent entrants appear to provide information about the United States to their compatriots in their origin country, hence increasing the probability that the decision to immigrate was well-informed and inducing higher rates of "commitment." The coefficient of the stock of naturalized citizens, on the other hand, while slightly below conventional levels of statistical significance, is negatively signed. Since Eastern-Hemisphere immigrants from countries with larger numbers of naturalized U.S. citizens are more likely to acquire visas as relatives, they would themselves have a reduced need to naturalize in order to make use of immigration entitlements.[4]

In the Western Hemisphere, the country characteristics operate somewhat differently, due in part to the different immigration-related benefits accorded naturalized Western-Hemisphere immigrants (until 1978) and to the different selection mechanisms associated with immigration. As in the Eastern

Hemisphere, the literacy rate, inflation rate, and U.S. military base variables are positively signed, while the English-language and SINPO-rating variables are negatively signed. However, here GNP and distance are statistically significant determinants of naturalization. Origin-country GNP has a strong negative effect, indicating that, as predicted, the higher a country's GNP the more attractive it is as a country to which to return; thus, presumably among persons from such countries only those with more favorable income realizations will remain in the United States. Distance also has a negatively-signed coefficient, suggesting that the information element may dominate the costs element with respect to the re-migration decision. The stronger negative GNP-effect on naturalization rates for Western-Hemisphere immigrants compared to that for Eastern-Hemisphere immigrants, who because of the Hemispheric differences in U.S. legal entry criteria tended to have a higher proportion of "family" migrants, was evidently reflected in the Census earnings estimates, where origin-country GNP per-capita exerts a stronger positive influence on the earnings of the foreign-born from the Western Henmisphere than on the earnings of Eastern-Hemisphere migrants.

### 2. Economic Status of Immigrants

To estimate the country-of-origin influences on the economic status of legal immigrants, we estimate the occupational earnings equations on the subset of the INS cohort who naturalize. Unfortunately, as noted above, there are not enough naturalized cases in the Western-Hemisphere INS sample to sustain a multivariate analysis of economic attainment for that immigrant sub-group. Thus, we restrict analysis of the economic attainment of legal immigrants to natives of the Eastern Hemisphere.

As in the Census data, the sample of immigrants from which we can estimate the determinants of earnings represents a self-selected subsample, in this case those among (also self-selected) immigrants who decided to become U.S. citizens within eleven years after becoming immigrants. However, for this sample, unlike for the Census, we could estimate the determinants of the sample selection rule associated with naturalization, as in Table 5.[5] Heckman (1979) has shown that if the unmeasured characteristics influencing sample selection and (log) earnings are jointly normally distributed, then the influence of the selectivity associated, in this case, with non-emigration and naturalization can be "taken out" of the earnings estimates, by first estimating the sample inclusion (naturalization) equation from the whole sample using probit and then including in the earnings equation estimated from the self-selected subsample the associated Mills-ratio ($\lambda$) estimate. The "corrected" estimates of earnings in our case yield the determinants of immigrant earnings solely as a function of immigration selectivity, i.e., net of re-migration selectivity. The inclusion of the Mills-ratio variable in the earnings equation not only purges out the naturalization cum re-migration selectivity effects in the occupational-earnings equation, but as well its coefficient provides a consistent estimate of the covariance between the unmeasured characteristics in the occupational-earnings and naturalization (sample inclusion) equations. To the extent that persons who do not naturalize are qualitatively similar to persons who emigrate, we thus can detect the direction and importance of emigration selectivity associated with unmeasured as well as measured variables.

Separating out immigration from re-migration or naturalization

selectivity effects using the Heckman procedure requires that we have a plausible set of variables which influence the decision to stay and naturalize (sample inclusion) but which do not influence earnings directly or via the original decision to immigrate. In our case, only the post-immigration, origin-country inflation rate (1970-78) and per-capita GNP (1978) and the SINPO rating variables serve as identifying instruments, apart from the non-linearities inherent in the probit specification. Moreover, the sample size for the Eastern-Hemisphere subsample of naturalized citizens is relatively small, only 248, so that our estimates may be relatively imprecise.

Table 6 reports estimates from four specifications of the log of occupational earnings at naturalization, for the INS Eastern-Hemisphere sample of male legal immigrants. The first two columns report OLS and selectivity-corrected (SC-OLS) estimates of the restricted model in which all origin-country influences are represented only by dummy variables. Except for India, all the dummies are negatively signed, with those for Europe and Japan strongly statistically significant. There is not much difference between the estimates in the two specifications, suggesting that, as confirmed by the marginal significance of the inverse-Mills-ratio variable, and subject to the strength of the identifying instruments, emigration selectivity does not strongly affect the earnings estimates for the Eastern-Hemisphere.

The third column reports estimates from the specification including both the country dummies and the country-condition variables. All the coefficients of the country dummies lose their statistical significance when country characteristics are included except that for Japan, which remains negative and marginally significant. As in the Census sample, the set of named country

Table 6

Determinants of Log of Occupational Earnings at Naturalization:
1971 Cohort of Eastern Hemisphere Male Immigrants, INS Sample

| Variable | Specification/Estimation Procedure | | | |
|---|---|---|---|---|
| | OLS | SC-OLS | SC-OLS | SC-OLS |
| Age | .0988 | .0973 | .108 | .105 |
| | (3.51)[a] | (3.55)[b] | (3.84)[b] | (3.76)[b] |
| Age squared | -.00114 | -.00109 | -.00123 | -.00118 |
| | (3.39) | (3.30) | (3.28) | (3.37) |
| Pre-immigration experience | .0358 | .0325 | .0326 | .0354 |
| | (3.00) | (2.71) | (2.67) | (3.05) |
| Post-immigration experience | .0476 | .0418 | .0418 | .0805 |
| | (0.55) | (0.49) | (0.49) | (0.97) |
| Post-immigration experience squared | -.00340 | -.00530 | -.00522 | -.00755 |
| | (0.54) | (0.86) | (0.84) | (1.24) |
| Europe | -.303 | -.228 | -.0778 | -- |
| | (4.85) | (2.73) | (0.28) | |
| Taiwan, Hong Kong | -.0487 | -.0495 | .0116 | -- |
| | (0.37) | (0.38) | (0.08) | |
| India | .0817 | .114 | -.0582 | -- |
| | (1.14) | (1.54) | (0.36 | |
| Japan | -.523 | -.476 | -.585 | -- |
| | (2.17) | (2.02) | (1.74) | |
| Philippines | -.106 | -.134 | -.202 | |
| | (1.50) | (1.84) | (1.02) | |
| GNP, 1970 ($\times 10^{-4}$) | -- | -- | .910 | .426 |
| | | | (1.53) | (0.93) |
| Literacy rate | -- | -- | -.00177 | -.00152 |
| | | | (0.44) | (0.59) |
| Distance ($\times 10^{-3}$) | -- | -- | .142 | .0836 |
| | | | (2.57) | (2.86) |
| English language | -- | -- | .145 | .194 |
| | | | (0.82) | (1.67) |
| Centrally planned | -- | -- | .115 | .120 |
| | | | (0.66 | (1.15) |
| U.S. military base | -- | -- | .147 | .118 |
| | | | (1.51) | (1.45) |
| VOA broadcasts | -- | -- | -.0422 | -.0507 |
| | | | (0.19) | (0.35) |
| Number foreign-born in the U.S.A. ($\times 10^{-5}$) | -- | -- | -.337 | -5.02 |
| | | | (0.06) | (1.96) |
| Number naturalized citizens in the U.S. ($\times 10^{-3}$) | | | -.0836 | .221 |
| | | | (0.24) | (0.86) |
| Constant | 8.16 | 8.25 | 7.21 | 7.30 |
| | (14.0) | (14.4) | (8.61) | (9.36) |
| $\lambda$ | -- | -.148 | -.101 | -.139 |
| | | (1.31) | (0.24) | (0.88) |
| Chi-squared | 89.1 | 103.0 | 122.7 | 112.6 |
| $\rho^2$ | -- | .146 | .0716 | .128 |

a. t-ratios beneath regression coefficients.
b. Selectivity-corrected t-ratios beneath regression coefficients.

variables is not statistically significant in the full specification, while country characteristics as a whole are statistically significant. Also, as in the Census sample, both per-capita GNP and distance are positively related to occupational earnings, with GNP only marginally statistically significant, however. Of the remaining country variables, only the presence of a U.S. military base approaches statistical significance; its coefficient is positive, consistent with the positive effects of information.

When the equation is estimated without the (insignificant) country dummies, the English-language variable and the number of natives among recent entrants to the United States achieve marginal statistical significance. The effect on occupational earnings of coming from a country where English is spoken is positive, as was found in the Census samples, a finding consistent with such immigrants having superior pre-immigration information as well as the advantage in the U.S. labor market of English-language skills.

Inclusion of all the origin-country characteristic variables evidently leads to rejection of the hypothesis that the selectivity associated with naturalization significantly affects the parameter estimates for the Eastern-Hemisphere immigrants. However, immigrants from the Eastern Hemisphere tend to have significantly higher naturalization and significantly lower emigration rates (Jasso and Rosenzweig (1982)) compared to Western-Hemisphere immigrants. The association between country-of-origin and occupational attainment thus appears to be mainly due to the selectivity associated with immigration decisions and the admission criteria of U.S. immigration law for the Eastern Hemisphere foreign-born, but differences across Western-Hemisphere immigrant groups may possibly reflect the influence of both immigration and re-migration

forces.

## IV. CONCLUSION

The empirical association between an immigrant's earnings in the United States and his or her country of origin is well documented. This paper has proposed a model in which the two fundamental behavioral decisions -- to immigrate to a given country and, subsequently, to remain there -- are based on a comparison of predicted maximum well-being in the origin and destination countries and which, hence, predicts the effects of three sets of origin-country factors on observed earnings in the destination country. The three sets of factors are: the opportunity costs of migration, the direct costs of migration, and the quantity and quality of information available in the origin country about the destination country.

Estimates based on samples of the foreign-born in the United States and recent U.S. immigrants, combined with origin-country characteristics, provide strong support for the hypothesis that characterizing the country of origin by its relevant attributes (relevant to the three sets of factors just cited) rather than by a dummy variable for its proper name would destroy the observed association between a country's proper name and the U.S. earnings of its emigrants. These results thus imply that changes in the earnings of foreign-born persons in the United States may depend more on changes in the economic conditions of origin countries, changes in travel costs, changes in information dissemination, and changes in U.S. immigration policy than on changes in the U.S. labor market.

## FOOTNOTES

1. We ignore relative prices, for simplicity. Note that differences in relative prices across origin and potential destination countries also may influence the migration decision and therefore migration selectivity.

2. We are assuming, again for simplicity, risk-neutrality.

3. We estimated a specification including the naturalized-citizen stock variable for the Western-Hemisphere sample, but its coefficient did not attain statistical significance and its magnitude was very small, suggesting that natives of the Western Hemisphere who do immigrate to the United States as spouses of U.S. citizens marry native-born U.S. citizens rather than persons from their own country who became naturalized citizens of the United States.

4. For example, given a family of six siblings, only the naturalization of one is required in order to sponsor the immigration of the remaining five.

5. Naturalized immigrants not reporting an occupation, less than five percent of the naturalized subgroup, are also selected out of the earnings subsample. The selectivity-corrected estimates reported below also take into account non-reporting. The probit sample-inclusion estimates are almost identical to the probit naturalization estimates reported in Table 5.

## REFERENCES


Borjas, George J., "The Impact of Assimilation on the Earnings of Immigrants: A Reexamination of the Evidence," National Bureau of Economic Research, Working Paper No. 1515, December 1984.

Chiswick, Barry R., "The Effect of Americanization on the Earnings of Foreign-Born Men," Journal of Political Economy 86 (October 1978), 897-921.

_____, "Is the New Immigration More Unskilled Than the Old?" Hoover Institution, Working Paper No. E-85-6, February 1985.

Heckman, James J., "Sample Selection Bias as a Specification Error," Econometrica 47 (January 1979), 153-161.

Jasso, Guillermina, and Mark R. Rosenzweig, "Estimating the Emigration Rates of Legal Immigrants Using Administrative and Survey Data: The 1971 Cohort of Immigrants to the United States," Demography 19 (August 1982), 279-290.

_____, "Estimating the Effects of Experience in the United States on the Occupational Mobility of Immigrants," paper presented at the annual meetings of the Population Association of America, Boston, Massachusetts, March 1985.

Reimers, Cordelia W., "Labor Market Discrimination Against Hispanic and Black Men," Review of Economics and Statistics 65 (November 1983), 570-579.

Rosenzweig, Mark R., and Kenneth I. Wolpin, "Migration Selectivity and the Effects of Public Programs," Economic Development Center Discussion Paper, University of Minnesota, October 1984.

United States Bureau of the Census, Money Income of Persons and Families in in the United States, 1979, Current Population Reports, 1982.