

**EXPERT GROUP MEETING ON INTERNATIONAL
MIGRATION AND DEVELOPMENT IN
LATIN AMERICA AND THE CARIBBEAN**

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**SOCIAL CAPITAL AND INTERNATIONAL MIGRATION FROM
LATIN AMERICA***

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* The views expressed in the paper do not imply the expression of any opinion on the part of the United Nations Secretariat.

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A. SOURCE OF DATA

Cross-national research to date has been limited by the lack of comparable and reliable data for different countries. The Latin American Migration Project (LAMP) was modeled on the Mexican Migration Project (MMP) explicitly to address this limitation by compiling equivalent datasets using comparable questionnaires and similar data collection methods across a range of countries in Latin America and the Caribbean. Here we take advantage of the data files that have been made public to date to compare the relative importance of network ties in determining first and later trips to the United States from Mexico, the Dominican Republic, Puerto Rico, Costa Rica, Nicaragua, and Peru.

The MMP began in 1982 and since 1987 has annually surveyed communities throughout Mexico to build a comprehensive data

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Sampling information for the MMP and LAMP surveys used

community who had ever been to the United States by year t , a measure developed originally by Massey, Goldring, and Durand (1994).

Prior work has found that social capital effects are not uniform across people and settings. As noted above, effects differ for men and women (Kanaiaupuni 2000; Curran and Rivero Fuentes 2004; Massey, Fischer, and Capoferro 2004), but in order to keep the scope of the present analysis manageable, we focus here on the study of male migrants alone and leave a detailed examination of gender interactions for future

census data at our disposal do not allow us to measure community size reliably by year from 1965 to the present, so we employ a rough classification scheme that divides communities into three categories. National and state capitals are usually large metropolitan areas, municipal capitals are the rough equivalent of a United States county seat and are usually small to medium sized cities. The remaining communities have no political or jurisdictional function and are usually small towns or tiny villages.

A third source of heterogeneity in the effects of social capital on migration is the difficulty and expense of making the trip. Specifically, we expect the relative power of social capital in determining migration to vary with the cost of the trip: the higher the cost and the more significant the barriers to international migration, the more we expect migrants to rely on social capital to gain entry and find work in the United States. In contrast, the lower the barriers to international movement, the smaller the risks of migration, and the lower the out-of-pocket costs, the less necessary and va

The costs of migration rise sharply as one moves to other Latin American countries, going from the

In terms of the assets considered here, already owning a home indicates the lack of a major motivation for migration (the need to self-finance home acquisition) and is thus hypothesized to be negatively related to the odds of out-migration. Around the world, the most important single use of migrant remittances is the acquisition or improvement of homes (Massey et al. 1998), and studies in Mexico have generally found home ownership to be negatively related to international migration (Massey and Espinosa 1997). In similar fashion, owning a business signifies the lack of a need for investment capital and also provides an additional source of earnings to reduce the net gain from emigration, lending it a negative influence on the probability of international movement.

The same might be said of land, except that land often requires significant ongoing investment to make production profitable in a market economy. During the 1940s, for example, Mexican authorities redistributed land to peasants but didn't provide them with financial assistance to undertake production, generating a demand for investment capital that was met by migrating to the United States (Massey et al. 1987). If a similar situation prevails elsewhere in Latin America (possession of land without the means of making it productive in a market economy), we would expect land ownership to exert a similarly positive effect on the odds of out-migration.

D. ACCESS TO FORMS OF CAPITAL ACROSS LATIN AMERICA

In table 3, we show mean values of variables used in the analysis of first out-migration to the United States to measure access to different forms of capital in the countries under study. These figures assess the situation of male household heads in the average year prior to their first United States trip or the survey date, whichever came first. Reflecting their close ties and long history of migration to the United States, respondents from Puerto Rico and Mexico are generally wealthiest in terms of individual social capital (see the table's top panel). Among Puerto Rican household heads, 4 per cent reported having a migrant parent, 17 per cent a migrant sibling, 3 per cent a migrant spouse, and 4 per cent a migrant child. Among Mexican heads, 10 per cent had a migrant parent, 12 per cent a migrant sibling, 1 per cent a migrant spouse, and 4 per cent a migrant child. At the bottom of the panel we present a summary index of access to individual social capital. Described in greater detail below, the index is a weighted average of personal network ties, where the weights reflect the relative importance of each tie in promoting emigration. As can be seen, Mexican and Puerto Rican household heads display similar levels of access to individual social capital, with respective index values of 0.204 and 0.234.

Household heads from the Dominican Republic display a similar level of access to individual social capital, reflecting the intensity of migration since it began in the early 1960s. In the average person year under observation, 4 per cent of the Dominican respondents had a migrant parent, 15 per cent a migrant sibling, 1 per cent a migrant spouse, and 4 per cent a migrant child, yielding a summary index identical to

In general, the cross-national pattern for human capital endowments is opposite that of social capital. At one extreme are Peruvians, who averaged 13 years of schooling, 18 years of labour force experience, and a quarter of whom held skilled occupations (recall that most of these respondents were from metropolitan Lima). Skilled occupations were those classified as professional, managerial, clerical, or skilled manual. At the other extreme are Mexicans and Puerto Ricans, with respective mean educations of 4 and 6 years, average times in the labour force of 14 and 11 years, and just 4 and 3 per cent in skilled occupations. In between these two extremes are Dominicans, Costa Ricans, and Nicaraguans, who report average educations of 6-7 years, average times in the labour force of 15-17 years, and percentages of skilled workers in the range of 9 per cent-13 per cent. We developed a set of weighted human capital indices (again, described below) to reflect this general ordering, with Peru topping out at 0.704 compared with values of 0.308 and 0.332 in Puerto Rico and Mexico, and 0.433 to 0.496 in the remaining countries.

The distribution of physical capital across countries roughly parallels that of human capital. Whereas 48 per cent of Peruvians owned their own homes the figure was just 20 per cent in Puerto Rico, and the

differences in the composition of the samples (the mix of rural versus urban areas) and constraints on degrees of freedom (a skewed distribution of human capital in a sample with relatively few cases).

As many studies before us have found, migration from Mexico to the United States is very strongly related to individual social capital. Having a parent, sibling, wife, or child with prior experience in the United States dramatically increases the odds that a household head who has never before migrated will leave on a first United States trip. Given the substantial degrees of freedom available in the Mexican data (394,000 person years!), all of the coefficients are robustly estimated and highly significant. Although only two of the four coefficients estimated for Puerto Rico are significant, in general the coefficients are comparable in size, all in the expected direction, and none is significantly different from its Mexican counterpart (standard errors for the coefficients are not shown here for reasons of parsimony, but can be sent on request).

In general, as one moves from left to right in the table—i.e. from fewer to greater costs of migration—the absolute size of the social capital coefficients increases, consistent with our expectation that social capital is more important when the barriers to movement are high (although variability among the coefficients also increases owing to differences in sample size). In the Dominican Republic all of the coefficients are significant and above 1.0, and in Costa Rica two of the coefficients are above 1.0 and all are significant, at least at the 10 per cent threshold. In Nicaragua three of the four coefficients are significant and their average size is around 2.0. Finally, though in Peru only one of the coefficients is significant (that for having a migrant spouse, the other two are not significantly different from the values observed in Mexico and Puerto Rico. There clearly are not enough Peruvians with migrant parents to enable a stable estimate of the effect given the limited degrees of freedom in the sample.

Consistent with earlier work, the indicator of general social capital (the prevalence of migrants in the community) is strong and significant in Mexico, as it is in Nicaragua and Costa Rica, but not Puerto Rico, the Dominican Republic, or Peru, possibly owing restricted degrees of freedom and the relatively urban nature of these samples, a proposition we test more fully in the next section. Consistent with the proposition that human capital effects are indeterminate under neoclassical economic theory, however, we encounter a diversity in the size and direction of effects for the various indicators of human capital.

Again, consistent with prior research, the effects in Mexico are significant and negative. Mexican migrants are clearly selected from the lower end of the distribution of education and skill. In contrast, migrants from the Dominican Republic, Nicaragua, and Peru appear to be positively selected with respect to education (though the effect for Peru is only significant at the 10 per cent level) and the size of the coefficient generally rises with increasing costs of migration. As in Mexico, however, migrants from Costa Rica and Nicaragua appear to be negatively selected with respect to occupational skill, with respective coefficients of -0.857 and -0.701. The coefficient for Peru (-0.971) is comparable in size, though not significant at conventional levels. A pattern of positive selectivity with respect to education and negative selectivity with respect to occupational status suggests the possibility of a skills mismatch motivating international migration from these countries—relatively well educated men who are unable to obtain a job commensurate with their schooling appear to be quite likely to migrate.

Finally, with respect to the effect of physical capital on out-migration only Mexico exhibits a clear and steady pattern that is consistent with expectations outlined above. The effect of land ownership is positive, suggesting that migrants may be moving to self-finance agricultural production and possibly using land as collateral for loans to undertake the trip. In contrast, home and business ownership have strong negative effects. That is, families that already own homes and businesses do not need to self-finance their acquisition through international migration, thereby overcoming missing, ineffective, or failed mortgage and capital markets. Although Dominicans exhibit exactly the same pattern of effects, statistical significance is closer to the border line and in the case of land ownerships fails to attain the threshold at all. Owing to a

combination of skewed property ownership distributions and a limited number of cases, none of the other

people with migrant experience—will be more important in determining migration than when the costs of migration are low.

In this case, however, the main effect of social capital in the interactive model is positive, so the effect of the interaction term (which is large and highly significant) is to amplify a basic effect that is present across all countries. We calculate the probability of migration by social capital for different cost rankings. The results show that in a setting where the relative costs of migration are low, such as Puerto Rico or Mexico, the accumulation of social capital does increase the odds of migration to the United States. Among those who lack any social connection to a United States migrant, the annual probability of migration is around 0.02 or 0.03, whereas among those with a migrant parent, sibling, spouse, and children the probability rises to 0.16 (at cost ranking 1) or 0.23 (at cost ranking 2).

In settings where the cost of migration is relatively low, therefore, the accumulation of social capital raises the odds of out-migration from somewhat low to modestly high levels. When the cost of migration is high, however, the likelihood of out-migration is very, very small at low levels of social capital. Absent a personal connection to a United States migrant, for example, the odds of leaving a setting like Peru are tiny, just 0.0016 per year. As access to social capital increases, however, the effect on the probability of migration rises at a rapid rate and the odds of leaving reach exceptional levels among those with multiple connections to United States migrants. Whereas the annual probability of migration for a person well-connected to migrants from a low cost setting was only modestly high at 0.16-0.23, the annual probability of out-migration for the same person originating in a high cost setting reaches the remarkable level of 0.62 (i.e. if they have a migrant parent, sibling, spouse, and child). In other words, if someone in Peru has multiple social connections to United States migrants, it is almost certain that they will emigrate within a short period of time.

Finally, the last interaction we postulated was between community size and our indicator of general social capital (the proportion of people in the community who have already been to the United States by year t). Drawing on prior theorizing and research, we hypothesize that general social capital only operates dynamically to raise rates of out-migration among smaller, rural communities, owing to the anonymous and transitory nature of the public sphere in urban settings. As can be seen in table 6, when only main effects are considered small towns and villages evince a higher likelihood of migration than municipal seats, whereas state or national capitals display a significantly lower probability of leaving. As already mentioned, the interaction between the state or national capital indicator and general human capital was not significant, but that between general social capital and small town or village residence was strong and highly significant.

Once the interaction term is introduced we see that the underlying effect of coming from a small town or village is negative. Other things equal, people from rural areas are less likely to migrate internationally (after all, they have fewer resources and are more isolated). What accounts for the higher rates of

community members have international experience. Using different data and methods, therefore, this analysis reconfirms the earlier conclusion of Fussell and Massey (2004) and Flores, Hernandez Leon and Massey (2004) that processes of cumulative causation generally fail to take hold in urban settings and are confined largely to rural areas.

G. THE PROCESS OF RECURRENT MIGRATION

Once someone has migrated to the United States, they return to their community of origin qualitatively changed. They have gained knowledge about the process of migration and valuable experience in United States markets, especially that for labour. Knowledge and skills gained in the course of migration falls under the rubric of migration-specific human capital, and work in Mexico has shown it to increase quite dramatically the odds of taking another trip to the United States. Once someone has lived and worked in the United States and returned home, the probability is high that they will leave again—much higher than the

0.290 and 0.336 in the model predicting first trips. Moreover, the interaction between human capital and cost of migration is not significant, which means that migrants making additional trips are negatively selected irrespective of the costs and difficulty of international movement. Unlike first trips, those selected into a pattern of recurrent migration are not positively selected with respect to human capital under any circumstances.

The effect of general social capital is also reduced in predicting later trips to the United States. In the interactive model predicting additional trips, the main effect of the share of migrants in the community is 1.132 and the interaction with small town or village origins is 0.851, compared with values of 2.441 and 1.364 in the model predicting first United States trips. Thus, although the process of cumulative causation continues to function across additional trips, the magnitude of the effect of general social capital is reduced compared with first trips. The key nexus in the self-feeding process of cumulative causation thus appears to be selection into the pool of migrants rather than the promotion of additional trips. Once migrants have gained United States experience, their behavior is most strongly conditioned by sorts of migration-specific human capital they have been able to accumulate.

As can be seen, the intercept of -0.297 in the interactive model predicting additional trips is much higher than that of -6.243 in the model of first trips, clearly indicating the qualitative change in the underlying odds of trip-taking for those with migratory experience. The intercept in the model predicting additional trips corresponds to a probability out-migration of 0.426, whereas that in the model predicting first trips corresponds to a likelihood of just 0.002. Once someone has migrated to the United States, therefore, the underlying hazard of going again is vastly greater than it was before the first trip.

Notice also that there is no elevation in the likelihood of repeat migration during the lost decade of the 1980s. The odds of leaving on an additional trip during the 1980s are the same as before this date. Since 1971-1980, the odds of leaving on an additional trip during the 1980s are the same as before this date. Since 1971-1980, the odds of leaving on an additional trip during the 1980s are the same as before this date.

REFERENCES

- Cerrutti, Marcela. (2001). "On the Auspices of Female Migration between Mexico and the United States." *Demography* 38:187-200.
- Curran, Sara R., and Estela Rivero Fuentes. (2003). "Engendering Migrant Networks: The Case of Mexico." *Demography* 40:289-307.
- Durand, Jorge, and Douglas S. Massey. (2004). *Crossing the Border: Research from the Mexican Migration Project*. New York: Russell Sage Foundation.
- Espinosa, Kristin E., and Douglas S. Massey. (1998). "Undocumented Migration and the Quantity and Quality of Social Capital."

- Singer, Audrey, and Douglas S. Massey (1998). "The Social Process of Undocumented Border Crossing." *International Migration Review* 32:561-92.
- Sjaastad, Larry A. (1962). "The Costs and Returns of Human Migration." *Journal of Political Economy* 70S: 80-93.
- Stark, Oded (1991). *The Migration of Labour*. Cambridge: Basil Blackwell.
- Todaro, Michael P. (1969). "A Model of Labour Migration and Urban Unemployment in Less-Developed Countries." *The American Economic Review* 59:138-48.
- Taylor, J. Edward (1987). "Undocumented Mexico-United States migration and the Returns to Households in Rural Mexico." *American Journal of Agricultural Economics* 69:626-38.
- Wirth, Louis (1938). "Urbanism as a Way of Life." *American Journal of Sociology* 44:3-24.

TABLE 1. SAMPLING INFORMATION FOR SURVEYS CONDUCTED IN SELECTED COUNTRIES BY THE LATIN AMERICAN AND MEXICAN MIGRATION PROJECTS.

TABLE 3. VARIABLES USED IN THE ANALYSIS OF FIRST OUT-MIGRATION FROM SIX ORIGIN CONTEXTS IN LATIN AMERICA

TABLE 5. EFFECTS OF DIFFERENT FORMS OF CAPITAL ON THE PROBABILITY THAT A MALE HOUSEHOLD HEAD FROM SIX LATIN AMERICAN SOCIETIES TOOK A FIRST TRIP TO THE UNITED STATES 1965-SURVEY DATE

<i>Independent Variables</i>	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>
FORMS OF CAPITAL				
Individual Social Capital				
Parent a United States Migrant	0.613***	0.035	0.663***	0.035
United States Migrant Siblings	0.852***	0.032	0.854***	0.032
Wife a United States Migrant	0.790***	0.078	0.758***	0.078
United States Migrant Children	0.914***	0.106	0.937***	0.106
General Social Capital				
Prop. United States Migrants in Community	2.910***	0.104	2.800***	0.104
Individual Human Capital				
Education	-0.008*	0.004	-0.017***	0.004
Years of Labour Force Experience	-0.016***	0.003	-0.016***	0.003
Skilled Occupation at Origin	-0.853	0.078	-0.790***	0.077
Physical Capital				

TABLE 6. INTERACTIVE MODEL OF THE PROBABILITY THAT A MALE HOUSEHOLD HEAD FROM SIX LATIN AMERICAN SOCIETIES TOOK A FIRST TRIP TO THE UNITED STATES 1965-SURVEY DATE

<i>Independent Variables</i>	<i>Main Effects Only</i>		<i>With Interactions</i>	
	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>
FORMS OF CAPITAL				
Individual Social Capital				
Social Capital Index	1.000***	0.027	0.290***	0.082
General Social Capital				
Prop. United States Migrants in Community	2.800***	0.105	2.441***	0.123
Individual Human Capital				
Human Capital Index	-1.000***	0.076	-1.918***	0.169
Physical Capital				
Land	0.226***	0.051	0.236***	0.050
Home	-0.189***	0.038	-0.190***	0.038
Business	-0.366***	0.059	-0.384***	0.059
KEY CONTROLS				
Cost of Migration				
Relative Cost Ranking	-0.328***	0.021	-0.582***	0.035
Relative Cost*Human Capital	---	---	0.390***	0.061
Relative Cost*Social Capital	---	---	0.336***	0.037
Community Category				
State Capital	-0.259***	0.044	-0.303***	0.070
Municipal Seat	---	---	---	---
Small town or village	0.144***	0.030	-0.127*	0.052
Small town * Prop. United States Migrants	---	---	1.364***	0.210
OTHER CONTROLS				
Demographic Background				
Age	0.235***	0.006	0.258***	0.006
Age squared	-0.005***	0.001	-0.005***	0.001
Married or in Consensual Union	-0.135***	0.037	-0.134***	0.037
Number of Children under 18	-0.071***	0.010	-0.070***	0.010
Period				
Before 1980	---	---	---	---
1980-1989	0.158***	0.033	0.155***	0.033
1990-1995	-0.042	0.051	-0.052	0.051
After 1996	-0.039	0.076	-0.098	0.077
Intercept	-6.814***	0.095	-6.243***	0.109
Likelihood Ratio	7549.97***		7716.51***	
Person Years Observed	524,616		524,616	

TABLE 7. I