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Documentos de Trabajo

And What About the Family Back Home? International Migration and Happiness

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Documento No. 03/08
Marzo, 2008

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RESUMEN

Este estudio utiliza información sobre el bienestar subjetivo y la migración de Cuenca, una de las ciudades más grandes de Ecuador. Examinamos el impacto de la emigración sobre la familia que se ha dejado atrás. Usamos el "propensity score matching" estimador para tener en cuenta la endogeneidad de la migración. Nuestros resultados indican que la migración reduce la felicidad de aquellos familiares que se han quedado en el país. También encontramos que las remesas que reciben los familiares que quedaron en el país no incrementan sus niveles de felicidad. Estos resultados sugieren que a los familiares que han quedado atrás no pueden ser compensados, dado el incremento de infelicidad que produce la emigración de sus familiares queridos, por el hecho de recibir las remesas desde el exterior.

Clasificación JEL: A12, F22, I31.
Palabras claves: Felicidad, Migración, Remesas.

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ABSTRACT

In this study we use data on subjective well being and migration in Cuenca, one of the Ecuador's largest cities. We examine the impact of migration on the happiness of the family left behind. We use the propensity score matching estimator to take into account the endogeneity of migration. Our results indicate that migration reduces the happiness of those left behind. We also find that the monetary inflows (remittances) that accompany migration do not increase happiness levels among recipients. These results suggest that the family left behind cannot be compensated, for the increase in unhappiness that it sustains on account of the emigration of loved ones, with remittances from abroad.

JEL Codes: A12, F22, I31.

Keywords: Happiness, migration, remittances.

A. Introduction

International migration can be motivated by a number of factors. Some migrate in order to escape dire poverty. Others go into exile in search of religious or political freedoms. Some move to invest in education, others to join relatives abroad, and still others in pursuit of adventure and new opportunities. While a great deal of research has analyzed the short-run and long-run outcomes for those that move to new areas (e.g. Borjas, 2002; Chiswick, 2002; Smith, 2003; Card, 2005) in this paper we turn out focus to the family left behind. In particular we consider whether the international migration of one or more family members serves to increase or decrease the level of "happiness" of household members who remain in the home community.

There are a number of reasons for expecting that migration and its potential by-products will continue to touch ever increasing numbers of individuals in the world. First of all, the incidence of international migration has been rising. In 1970, about 2.2 percent of the world's population lived in a country other than their country of birth. In contrast, by 2000, the foreign born accounted for close to 3 percent of the world's population (International Organization for Migration 2005, p. 379). A second reason for expecting rising impacts of migration is due to the observation that emigration impacts more than those moving to another country. Barriers to migration often make it difficult for whole families to migrate. Therefore the incidence of migration-impacted households can change with public policy which ultimately accentuates family separations and dislocations. Massey (2006) has noted that increased enforcement at the US/Mexico border implemented to stem illegal immigration has had the unintended effect of extending the stay of unauthorized immigrants who would normally periodically return

home. Longer stays by unauthorized immigrant are likely to lead to longer-lasting and permanent family separations. A third reason for expecting migration to touch larger portions of the world population stems from policy shifts in immigration legislation toward preferences for skill labor migration at the expense of family reunification. If legislation continues to be developed along these lines, it follows that a larger circle of individuals will be affected by migration due to longer-run family separations. Finally, continued rapid technological progress of the sort observed in the more recent decades is likely to continue, further reducing transportation and communication costs, easing travel and facilitating international migration (UNDP, 1999).

Given the expectation of greater family dislocations via migration, what are our priors on the impact of migration on happiness? We hypothesize that migration reduces happiness levels of the family left behind. The emigration of a household member is likely to directly cause disruptions in the household since the absent household member may have been contributing to the household via market or house work. Thus, in addition to discomfort stemming from the absence of loved ones, household and monetary responsibilities now need to be assumed by other family members. The reallocation of household chores and market work is likely to be costly for the remaining family members, reducing happiness levels.

In this paper we also explore a second mechanism by which migration may impact the household. Many immigrants remit money home. In fact, the *raison d'etre* for migration in the first case is often couched in terms of obtaining opportunities to remit money home. These monetary inflows, which many migrant households[4] eventually

[4] In this paper we will use the term "migrant-household" to refer to households who have been impacted by migration through the international emigration of a family member.

enjoy, may compensate in whole or in part for the losses felt on account of the absent household member. In sum, we therefore seek to explore two questions. In the first we ask whether migration decreases the level of happiness of the family back home. Next we explore whether the monetary by-products (remittances) that often follow migration increase the happiness levels of those households.

In order to examine the impact of migration on the happiness of the family left behind we exploit information contained in the *Discrimination and Economic Outcomes Survey* undertaken in Ecuador in 2006 under the auspices of the Inter-American Development Bank.[5] The survey contains information from 665 households: 480 in Cuenca and 185 in San Fernando. In this paper we only include households residing in Cuenca. Cuenca is the third largest city in Ecuador with nearly a half million inhabitants while San Fernando is a very small town with approximately 3,000 inhabitants[6]. If the household does claim a migrant member, limited information on that migration is collected. Furthermore, information concerning the receipt of remittances is collected of all households as is a question that assesses the "happiness" of the survey respondent.

B. Literature and Measurement Concerns

To what extent is it possible to discern "happiness" from surveys such as the one in question? Di Tella and MacCulloch (2005) note that other social scientists including psychologists have relied upon happiness data much like the data included in the Discrimination and Economic Outcomes Survey that we are working with. They claim

[5]The Latin-American and Caribbean Research Network under the auspices of the Inter-American Development Bank were responsible for carrying out the survey.

[6] Almost all households in San Fernando are migrant households. As will become evident in the methodology section of this paper, it is not possible to employ the methodology we use for households residing in San Fernando since there are too few non-migrant households to draw from to obtain our counterfactual comparison group.

that: "….well-being data pass what psychologists sometimes call validation exercises. Pavot (1991), for example, finds that respondents who report that they are very happy tend to smile more, an act that arguably is correlated with true internal happiness". Layard (2005) further rationalizes the use of happiness data by noting research in neuroscience (Davidson, 2000) which have found that different regions in the brain are associated with positive and negative affects. Thus when people describe their feelings there is some biological basis and their claims are not purely subjective. Furthermore, self-reported happiness is correlated with others' assessments of happiness. As such, many argue that happiness can be measured and can be compared between individuals and over time. In our case, respondents happiness are assessed by way of asking whether they are "very satisfied," "fairly satisfied," "not satisfied," or "very unsatisfied" with their life[7]. With this information we construct a happiness dummy variable equal to "1" if the house head is very satisfied or fairly satisfied with their life and "0" otherwise.

The literature on happiness suggests that a number of demographic, cultural and economic factors play a role in individual's happiness. A review of the empirical literature appears to concur with common expectations regarding the relationship between personal variables and happiness. For example, separated individuals and divorced individuals are found to be less happy (Clark and Oswald, 1994; Blanchard and Oswald, 2000) and the degree of happiness is found to be "U-shaped" with respect to age (Blanchflower and Oswald, 2000). Happiness decreases with age but eventually rises as individuals get older. In contrast, education and happiness are found to be "inverse U-shaped. More education increases happiness, but only up to a certain point. That is,

[7] The exact wording for this question in the original is: *¿En términos generales, usted diría que está muy satisfecho con su vida, bastante satisfecho con su vida, no muy satisfecho o para nada satisfecho?*

education can be "too much of a good thing," since beyond a certain point, additional levels of education are found to contribute negatively to happiness levels (Hartlog et al., 1997).

Other variables are found to have less obvious and sometimes even counterintuitive impacts on happiness. For example, absolute income levels do not seem to be important as determinants of happiness (Easterlin, 1974; Blanchflower and Oswald, 2000; Rayo and Becker, 2007). Relative income or wage standing, instead appear to affect happiness levels (Frank, 1985; Easterlin, 2001, Miles et al., 2005). Interestingly, self-employment is found to increase happiness for individuals in developed economies, while having the opposite effect for individuals residing in developing economies (Graham et al., 2001).

A number of other variables have been found to affect happiness, but with less robust findings. For example, while it has been reported that women are happier than men, the reported happiness among women is found to be declining over time. And while religious denomination does not appear to impact happiness, religiosity, measured by attendance at religious ceremonies, seems to be correlated with greater levels of happiness (e.g. Blanchflower and Oswald 2000).

Our intent is to contribute to this literature by assessing the impact of migration on happiness. To this end one might consider estimating a regression of the following form:

$$H_i = \alpha + \beta F_i + \gamma P_i + \delta M_i + \varepsilon_i \qquad (1)$$

Happiness for the head of household i (H_i) is presumed to depend on vectors of household (F_i) and personal head of household (P_i) variables[8]. Following the literature on happiness, the vector F_i includes absolute (or relative) per capita income and household wealth. Personal (P_i) variables that are presumed to affect happiness are gender, age and employment status. We would augment the standard happiness equation to include one or a vector of migration related variables M_i, (whether there is a migrant in the household j, whether the household j enjoys the receipt of remittances from abroad) which may, in turn, have important impacts on happiness. Finally, ε_i is the unobserved heterogeneity for the household i.

While (1) may seem a reasonable specification, it may not be appropriate if we cannot justify that all right hand side variables in equation (1) are exogenous -- that there is no correlation between the right hand side variables and the error term. This proves problematic for the following reasons. Consider, for example, a very simple migration variable -- a dummy variable assuming the value "1" for households that claim that one of its members is a migrant and "0" otherwise. Correlation between the migration dummy variable and the error term might very well exist on account of reverse causality. While we are presuming that migration impacts happiness (e.g. family remaining behind miss the migrant and their former contributions to the family and therefore are less happy), it is also conceivable that happiness affects migration. For example, a very unhappy household head may "drive family away" thereby prompting out-migration.

In addition to endogeneity originating from reverse causality, unobserved heterogeneity may also play a role. Migrant households are not likely to be randomly

[8] We are limited to examining happiness of the household head only since the survey only queries the head on his/her level of happiness.

selected[9] from the population, but we may not be able to observe and control for that selection. For example, it may be that migrants tend to originate from households willing to indulge in risk-taking behavior. But risk attitudes may also play a role in determining happiness. If we cannot control for risk attitudes on the right hand side of (1) the migration variable and error term will be correlated and our inferences regarding migration and happiness will be biased.

Non-migration regressors in equation (1) may also suffer from endogeneity. One obvious candidate is income. Positive work attitudes may very well be a factor in determining income, but work attitudes are also likely to affect happiness. If we do not observe and therefore control for work attitudes, this will be reflected in the error term which will now be correlated with income, biasing the coefficient on income and incorrectly assessing income's impact on happiness.

A common solution for endogeneity is to find instruments for the endogenous variables in question. By finding variables that are correlated with the endogenous right hand side variable yet not related to the dependent variable, we can purge the equation of endogeneity and thereby obtain consistent estimates that reliably describe how the right hand side variables affect happiness. In many cases, however, good instruments are difficult to obtain. Furthermore, once we find good candidates, diagnostic tests of the suitability of instruments are sometimes of questionable reliability, making it difficult to justify their use. While we might venture to use instrumental variables to correct for one endogenous regressor, we feel less confident about finding and justifying instruments for all the regressors in equation (1) that are likely to be endogenous. For this reason we

[9] The received wisdom is that there is considerable selectivity with respect to a host of migrant characteristics. (See Chiquiar and Hanson (2005) and Feliciano (2005) for examples.) This selectivity is likely to spillover into the characteristics embodied by the households from which the migrants originate.

seek an alternative technique to assess the impact of migration and migration related variables on happiness.

C. Methodology

The gold standard for assessing causality from variable "M" (for example, the migration of household members) to outcome variable "H" (in our case happiness) is to perform a randomized experiment. In a randomized experiment subjects are chosen at random from the population. We refer to this group as the experimental or treatment group. Since these subjects have been selected at random, they must be, on average, identical in characteristics to the "non-picked" or "control" group. The experimental group is then "treated" with migration. Next, we compare outcomes (happiness) in the experimental group with the control group. Any differences observed in the two can be attributed to the treatment since the two groups were identical before treatment. In this manner we avoid the selection bias problem, permitting us to assess causality from treatment M (having a migrant family member) to outcome H (happiness).

Unfortunately, controlled random experiments are expensive and unlikely to be undertaken in studies of international migration. As a substitute, we employ a matching technique--we in effect find a "control group" that matches the "experimental group"--the set of families who have been touched by migration. That is, we simulate a randomized experiment by finding a control group among those households who are not migrant households. We work backwards in comparison to a randomized experiment. We are presented with a treated group. Our job is to find a control group that matches the treated group. We use this "matched control" group to derive comparisons with the "treated" group. In this way we can discern causality from migration to happiness and

thereby make inferences about the affect of migration on happiness. While such a technique limits our conclusions (we do not get any information concerning how the other variables -- income, age, education -- affect happiness) potential endogeneity on the part of these other variables will not compromise our conclusions about migration on happiness. In this way we eliminate selection bias that exists with respect to the comparisons of treated and non-treated groups and assess causality from "M" to "H" -- in our case, from migration to happiness.

In this paper we use propensity score matching (PSM) to obtain an artificially generated control group that is similar to the treatment group in every aspect except that the persons in the control group do not have a family member abroad. Rosenbaun and Rubin (1983) show that it is not necessary to perform the match with respect to the vector of personal characteristics. It is enough to match the propensity score, that is, the predicted probability of treatment receipt (in our case migration). We assume that treatment participation depends on a vector of observable variables X. In order to obtain the artificially created control group one needs to first obtain the propensity score for each observation that "orders" observations along a set of observable variables. For each treated observation we find the non-treated observation that is closest to the treated observations to serve as the corresponding control observation. That is, we obtain predicted probabilities from a probit that predicts migration and then use these predicted probabilities to match non-migrant households to migrant households.

Typically, for each treated observation, PSM selects one similar non-treated observation and adds this observation to the control group. In our case we use the K-nearest neighbor matching method (setting K equal to 1 or 2) to select the matched

control group. The choice of K=1 or K=2 controls involves tradeoffs. Bias will be smallest with one matching observations (with K=1), but we can reduce the variance with a larger number of matches. As we explain in more detail below, we choose K=1 or 2 based on the size of the available control group. The actual algorithm employed to match the potential control observations to the treated observation is PSMATCH2, version 3.0.0 by Leuven and Sianesi (2003).

D. Results

For our "migration experiment" we use all observations to estimate a probit model explaining migration. The probit model estimated to construct the propensity scores which are used to match controls to treated observations is as follows:

$$M_i = \alpha_1 + \beta^M F_i + \gamma^M P_i + \varepsilon_i \qquad (2)$$

where M_i is a dummy variable assuming the value "1" if the head of household i claims at least one parent, child or spouse living abroad. The vector F_i represents the set of household i characteristics which predict which respondents will originate from a migrant household. The vector P_i represents the set of the head of the household i personal characteristics. We include in these vectors, age and its square (to allow for non-linear life-cycle effects), marital status, schooling, employment situations and migration networks. At this juncture, a comment is in order regarding our definition of "migrant household". We limit migrant households to households claiming to have a spouse, parent, or child living abroad. In essence we are limiting our definition of migrant household to those with "close" family abroad. Undoubtedly, "close" is rather arbitrarily defined. We include parents but not siblings. However, given the pervasiveness of migration in this community (75% of all households surveyed claim to have a relative

abroad) and given that all respondents are at least 18 years old, we felt that restricting close family members to parents, children and spouses is justifiable by way of reasoning that there is a qualitative difference between having say a spouse abroad and a cousin abroad. Using this definition, 16 percent of households are defined as migrant households.

Some simple descriptive statistics for the variables used in this analysis are displayed in the appendix. While 16 percent of household claim to have a close relative emigrant, 27 percent of households receive remittances from abroad. More distant relatives (cousins for example) may be the source of these transfers from abroad in the case of households receiving remittances but not claiming "close" family members abroad. The average household head in this survey is 40 year of age with a total of 4.3 household members and 58 percent claim to be married. Forty-five percent of household heads work full time and 44 percent are self employed. Education is coded into 7 categories with the data revealing that on average household heads in this survey have some secondary schooling. We measure migrant networks by coding for each household the number of years since departure of the 1st family emigrant. In this respect we include all family, not just close family members. On average it has been 11 years since the first family member migrated abroad, our proxy for migrant networks. In this community there are, on average, 0.4 migrants per household (including both close and distant family members). Per capita income in this community averages US $ 1574.

The results of estimation of equation (2), the probit equation used to obtain predicted probabilities of migrant household status, are displayed in Table 1 and indicate that in this population migration selects negatively on schooling. An additional step in

the 7 category schooling variable reduces the likelihood of having a close family member abroad by 4 percentage points at the mean. Working full time decrease the probability of selection into migration by 6 percentage points. Households with older migration networks (defined as years since first relative emigrated abroad) seem more likely to experience the migration of a close family member.

The propensity score is now used to rank all observations, both selected and not selected, into migration. These ranking then are used to "match" observations (non-migrant observations) to serve as controls for the migrant sample. Given that we have 78 "close migrant households" and 384 "non-migrant households[10]" we allow for 2 control observations per treated observations; that is we use K=2 neighbor matching.[11] We now use the set of matched controls to make comparisons with the treated group. The matched controls are presumably an appropriate comparison group to the treated except for the fact that they are not treated. Hence we can infer causality from the treatment by simply comparing the mean values for the treated group to the mean values for the matched controls and attribute differences in the two to the treatment.

Of particular concern in any study using non-experimental data is whether indeed the control group serves as a good comparison for the treated group. Can we "after the fact" demonstrate that the control group resembles the treated group in the pre-treatment time period? How accurate is our matching? Do the matched controls really serve as counterfactuals to the treated group? To gain some insights into the comparability of the treated with the matched controls we report on a series of descriptive statistics for the groups. These are i) the treated group -- migrant households; ii) the untreated group --

[10] Recall, non-migrant households may have migrants, but they are not "close" family members. A cousin, for example, is not defined to be a close family member in this paper.
[11] Our results remain mostly intact when we allow for only 1 matched observations per treated observation.

non-migrant households; iii) the matched controls -- a subset of the untreated non-migrant households -- those with propensity scores closest to the scores of the treated group. The results in Table 2 reveal that in many cases there are significant differences in mean values for the treated and the not treated group, while those differences mostly disappear between the treated and matched controls. Take, for example, the case of schooling. The non-treated group has almost one year more of schooling ($\overline{X}_T - \overline{X}_{NT} = -0.82$) and this difference is statistically different from zero. But this statistically significant difference disappears when we compare the treated with the matched controls ($\overline{X}_T - \overline{X}_{MC} = 0.09$).

Note that while some of the variables displayed in Table 2 correspond with the variables used to undertake the "matching" (see variables included in the probit equation) not all were included in the probit model. That is, some of the descriptive statistics in Table 2 indicates that the two groups match well along dimensions not even directly considered in the matching algorithm. For example, per capita income is not included in the probit used to select the matched controls. Nonetheless, before matching, the difference in per capita income is -293 (and statistically different from 0) but this difference falls to 57 after matching and is no longer statistically different from 0.

Of interest to us, however is the test of differences in the mean happiness levels of respondents claiming to be in migrant households versus matched non-migrant households.

$$H_0 : \mu_T^H - \mu_{MC}^H = 0 \qquad (3)$$

against the alternative

$$H_1 : \mu_T^H - \mu_{MC}^H \neq 0 \quad (4)$$

Results for this test are displayed in the final row of Table 2. We find that the differences in the mean value of happiness for the treated and matched control groups is -0.13 with a standard error of 0.075. This implies that there is a difference in happiness at better than the 5% level of significance and that this difference is due to migration. Families with close migrants are less happy than families without close migrants. Assuming that our matching procedure has successfully identified a counterfactual -- a set of households similar in all characteristics with the non-migrant households with the exception of claiming to have an emigrant family member -- the results indicate that migration reduces happiness. Household heads with close family abroad are less happy on account of that emigration.

We have established that migration reduces happiness. We follow up on the question of happiness by performing a second "experiment." We ask: Can money from abroad buy happiness? Do survey respondents who reside in remittance receiving households feel happier? In order to investigate this topic we undertake a similar "experiment." First we estimate a remittance equation to determine what drives remittance recipiency. What are the characteristics of a remittance receiving household? This equation is used to then select a comparison group of households, a non-treated non-recipient group. The level of happiness of remittance receiving and matching non-receiving households is then compared to assess how remittances affect happiness.

The remitting equation that we estimate is as follows:

$$R_i = \alpha_2 + \beta^R F_i + \gamma^R P_i + \varepsilon_i \quad (5)$$

R_i is a dummy value assuming the value of "1" if household i receive remittances and "0" otherwise. F_i and P_i are vectors of variables describing household and household head person characteristic, which explain remittance recipiency. The results of the probit estimation are displayed in Table 3. Remittance recipiency is more likely the larger the household and the lower is per capita income for the household. Households with more educated heads (presumably proxying for overall educational endowments of the family) are less likely to receive remittances. Moving up one category in the schooling variable reduces the probability of remittance recipiency by 7 percentage points at the mean. Remittance recipiency rises with migration networks (defined as years since migration of first family member). But given the negative sign on years since migration squared, this effect eventually wears off. This is consistent with the notion that it takes time for migrants to settle in before sending remittances. At first they need to defray migration costs and find jobs. But after a period of time the transfer of resources home sets in with assimilation possibly reducing transfers home after a certain point). We also find that divorced respondents are less likely to receive remittances relative to the omitted category, a single household head.

We now go on to use the propensity score to find matches for the remittance receiving households who are alike in all dimensions (observable to us) to remittance receiving households, but who do not receive remittances. We perform an exercise similar to the one performed for migrant households to determine the soundness of our matching. Table 4 displays the results and shows that while in most cases the treated and not treated means and proportions are statistically different in value, the treated and matched samples are not. The matching seems to have been successful in selecting a

good matching sample and hence the causal effects of treatment (remittance reciepiency) should be discernable from comparisons of the treated and matched groups. That is we wish to test:

$$H_0 : \mu_T^H - \mu_{MC}^H = 0$$

Against the alternative

$$H_1 : \mu_T^H - \mu_{MC}^H \neq 0$$

The results of this test are displayed in the final row of Table 4. The mean value for happiness for the ***treated*** group is 0.58 while for the ***unmatched*** group it is 0.71. This difference is statistically significant and is what one would obtain if one simply compared remittance receiving households with non-recipient households. But remember remittance receiving households are a selected sample and such a comparison is not valid. When we instead compare the ***treated*** households to the ***matched*** sample, the level of happiness rises to only 0.65. The difference (0.58-0.65) = - 0.07 is compared with the standard error of the difference (0.07) and yields us a t-value of 1 preventing us from rejecting the null hypothesis. Remittances do not alter mean happiness of remittance-receiving households as measured by the level of happiness of the household head.

D. Conclusions

In this paper we set out to study the impact of migration and remittances on the happiness of the family left behind. We exploit the results of a survey conducted in Cuenca, Ecuador in 2006 that collects information on both migration of family members and on the receipt of remittances. In addition the survey asks a question about the level of happiness experienced by the respondent, the household head. This allows us to check for the impacts of migration and migration related variables on happiness.

As in any study of happiness, the primary challenge is to correct for endogeneity. A large number of variables are likely to affect the "happiness" of individuals, but it is also the case that happiness is likely to impact on many variables of interest. Given selectivity in terms of who migrates, unobserved heterogeneity is also likely to complicate the assessment of migration on happiness. Dealing with this endogeneity is essential if we are to obtain credible and reliable results. In our case we choose to deal with the endogeneity of happiness by using matching methods. To assess the impact of migration on happiness we first estimated a propensity score for migration. These scores were then used to find matched controls for those observations that were "treated" with migration. We found that the matched controls were more happy than the treated. In other words we were able to infer, in this case, that families with migrants are less happy. Migration reduces the happiness of those left behind. In a second experiment we test to see the impact of remittance recipiency on happiness. Are families who receive remittances happier?

In conjunction, the two experiments suggest that remittances, the monetary inflows that often accompany migration, cannot compensate for the absence of household members through migration. This is interesting because it is often claimed that the *raison d'etra* of international migration from developing to developed economies is the acquisition of additional monetary resources from abroad for family back home to enjoy. But it does not appear that these transfers can be used to raise the happiness levels of the family left behind. As such one cannot compensate the family left behind for the absence of loved ones with remittances from abroad.

Table 1: Probit to Predict that the Respondent has a close family migrant member.

Dependent variable: Respondent claims that a child, parent or spouse is living abroad

	coefficient	*se*	*z*	*Marginal effect*
constant	1.3174	0.4876	-0.16	--
Age	-0.0435 *	0.0057	-1.74	-0.0099
Age squared	0.0006 **	0.0003	2.28	0.00014
Schooling	-0.1792***	0.0510	-3.51	-0.0409
Fulltime	-0.27977 *	0.0345	-1.80	-0.0631
Self employed	-0.2257	0.0368	-1.38	-0.0509
Married	-0.1030	0.1570	-0.66	-0.0237
Years	0.0127 **	0.0061	2.08	0.0029
R^2	0.1010			
Chi^2 (prob)	42.36 (0.0000)			
Observed P (predicted P)	0.17 (0.15)			

Notes: * signifies statistically different from 0 at the 10% level or better, ** signifies statistically different from 0 at the 5% level or better, *** signifies statistically different from 0 at the 1 level or better. N=462

Table 2: Means and Proportions for the Treated, the Not Treated and the Matched` Control Groups--Migration Treatment

	Treated X_T	*Not Treated* X_{NT}	*Matched Control* X_{MC}	(X_T-X_{NT})	(X_T-X_C)
Age	45.7	39.4	42.2	6.31***	3.52
Married	0.59	0.58	0.58	0.003	0.01
Schooling	3.78	4.60	3.69	-0.82***	0.09
Per capita income	1330	1624	1272	-293 *	57
Full time	0.35	0.51	0.42	-0.15**	-0.06
Household Size	4.53	4.27	4.13	0.26	0.40
Happiness	**0.58**	**0.69**	**0.71**	**-0.12****	**-0.13****

Notes: * signifies statistically different from 0 at the 10% level or better, ** signifies statistically different from 0 at the 5% level or better, *** signifies statistically different from 0 at the 1 level or better.

Table 3: Probit to Predict that the Respondent is in a Remittance Recipient household
Dependent variable: Household receives international remittances.

	coefficient	*se*	*z*	*Marginal effect*
constant	.0311	.6124	0.05	--
Household size	.1473***	.0388	3.80	.0381
Age	-.0382	.0265	-1.44	-.0099
Age squared	.0004	.0003	1.26	.0001
Married	-.1898	.1871	-1.01	-.0503
Divorced	-.5173*	.2898	-1.78	-.1095
Schooling	-.2677***	.0591	-4.53	-.0693
Per capita mig.	1.3372***	.2156	6.20	.3461
Years since mig	.0964***	.0224	4.29	.0249
Years Squared	-.0029***	.0007	-4.38	-.0007
Income per cap	-.0001**	.0001	-2.47	-.00004
Disabled	.2913	.2724	1.07	.0837
R^2	0.2459			
Chi^2 (prob)	133.63 (0.0000)			
Observed P (predicted P)	.27 (0.18)			

Notes: * signifies statistically different from 0 at the 10% level or better, ** signifies statistically different from 0 at the 5% level or better, *** signifies statistically different from 0 at the 1 level or better. N=462

Table 4: Means and Proportions for the Treated, the Not Treated and the Matched Control Groups--Remittance Treatment

	Treated X_T	*Not Treated* X_{NT}	*Matched Control* X_{MC}	(X_T-X_{NT})	(X_T-X_{MC})
Age	38.13	41.3	40.3	-3.17**	-2.17
Household Size	4.67	4.19	4.64	0.49**	0.04
Schooling	3.9	4.7	3.8	-0.80***	0.06
Per capita income	1122	1745	1076	-622***	45
Happiness	**0.58**	**0.71**	**0.65**	**-0.13*** **	**-0.07**

Notes: * signifies statistically different from 0 at the 10% level or better, ** signifies statistically different from 0 at the 5% level or better, *** signifies statistically different from 0 at the 1 level or better.

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Appendix

Descriptive Statistics for Variables Used in the Analysis
Cuenca, Ecuador - 2006

	Mean	Standard Deviation	Minimum	Maximum
Happiness	0.67	0.46	0	1
Close	0.16	0.37	0	1
Remit	0.27	0.47	0	1
Age	40.4	16	18	86
Education	4.46	1.57	1	7
Fulltime	0.45	0.45	0	1
Self-employed	0.44	0.49	0	1
Married	0.58	0.49	0	1
Divorced	0.12	0.32	0	1
Single	0.24	0.43	0	1
Migration network	11.1	11.4	0	106
Household size	4.32	2.03	1	15
Per capita income	1574	1662	0	12960
Migrants per capita in HH	0.38	0.44	0	4

Sample Size: 462

Source: Discrimination and Economic Outcomes survey, Latin-American and Caribbean Research Network , Inter-American Development Bank.