Subjective Well-Being among Communities Left Behind by International Migrants

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This article assesses the impact of international migration on the subjective well-being of communities of origin in Mexico. Using a representative national survey and an empirical strategy with instrumental variables, we find that higher migratory intensity, at the municipal level, increases life satisfaction among men and women. There is a negative effect on emotional states of women, but an improvement in emotional states of men. Without controlling for schooling, a variable affected by international migration, men have a lower satisfaction with their perspective of future. Overall, the evidence in Mexico shows that the effects of international migration in the communities of origin are complex and with differential effects based on gender.

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1. Introduction

The effects of international migration in the communities of origin have been widely studied from different theoretical approaches, with findings of heterogeneous effects on development (Curran, 2016; De Haas, 2010). This includes a broadening of studies in economics beyond remittances (Clemens, Özden, & Rapoport, 2014). Mexico is one of the main origins of international migrants, and this country has been a case extensively studied. Quantitative studies regarding the effect of remittances have found positive effects on poverty reduction (Esquivel & Huerta-Pineda, 2007), on the health of children (Hildebrandt & McKenzie, 2005), on the capacity of households to assume expenses associated with health risks (Ambrosius & Cuecuecha, 2013), on the capitalization of small enterprises (Woodruff & Zenteno, 2007), and on the development of the financial system (Demirgüç-Kunt, López-Córdova, Martínez, & Woodruff C., 2011). Also, the literature has found that a decrease in the mostly male labor force has a positive impact on wages in the short run (Aydemir & Borjas, 2006) and on the labor participation of women (Raphael, 2013). However, field studies in the Mexican literature also suggest that the changes produced in the structure and roles within families can be related to conflicts in terms of the control of remittances and affective struggles among women (Arias, 2013; Suarez & Zapata, 2004) and a sense of loss of family unity and traditional values (Jones, 2015). In addition, there is evidence that migration of sons produces negative effects on the health of their parents (Antman, 2010) and a negative effect on accumulation of human capital, particularly for men (McKenzie & Rapoport, 2011).

There is a growing quantitative literature about the relationship between subjective well-being and migration (Hendriks, 2015; Simpson, 2013). However, studies have concentrated mostly on differences in subjective well-being between migrants and natives in destination economies or on changes in the subjective well-being produced by the migration among migrants, with only few studies in the communities of origin, even in countries with a large literature such as Mexico. The study of subjective well-being among households left behind suggest that remittances counteract the downsides to family emigration (Borraz, Pozo, & Rossi, 2010), as the loss of family unity or traditional values (Jones, 2015). This work contributes to the analysis of the relationship between international migration and development using subjective well-being as a measure of development. For this, we study the effects on the communities of origin. This has the advantage of an overall assessment of the effect, which includes the effect of remittances in the local economy beyond receiving households, and controls for the fact that migration could change relative deprivation among migrant and non-migrant households (Stark & Taylor, 1989), generating intragroup differences in the community, but without overall absolute gains.

The economic literature has been unwilling about the possibility of comparison between indicators of subjective well-being and more objective measures regularly used to study welfare (Stutzer & Frey, 2012). An increase in income does not necessarily translate into higher subjective well-being if the process is accompanied by changes in aspirations or if individuals have emotional capabilities to adapt to negative events (Fuentes & Rojas, 2001). However, empirical studies have shown that there is a relationship of subjective well-being indicators with the position on the income ladder within a country and with the

per capita income between countries when studies include low-income countries (Sacks, Stevenson, & Wolfers, 2010). Communities in Mexico where international migration is higher are characterized by lower socioeconomic status than the rest of the country. Thus, the hypothesis of this work is that the advantages found using more objective indicators of welfare in the prior literature translate into subjective well-being improvements in domains of life related to material elements, with that effect possibly coming from remittances. On the other hand, from the literature that has indicated that migration produces emotional problems and struggles to maintain family unity and traditional values, we expect an increase in the negative emotional states and a decrease in positive ones. International migration has substantially altered the roles of gender in the migratory communities; likewise, emotional problems related to migration are specific to women or men, then results are estimated separately according to gender.

Data on subjective well-being come from Modulo de Bienestar Autoreportado, a survey developed by the Instituto Nacional de Geografía e Informática (INEGI) between August and November 2014, with a representative sample at the national and state levels in Mexico. The questionnaire was designed following the methodology proposed by the Organisation for Economic Co-operation and Development (OECD) in 2013 and retrieves information on three subjective well-being dimensions: (i) a reflective assessment of life satisfaction, (ii) emotional states, and (iii) a feeling of purpose of life. It uses a battery of questions for each of these three dimensions. Our hypothesis mainly implicate the first two dimensions; then results on the feeling of purpose in life will not be reported. Indexes of migratory intensity in 2000 and 2010, prepared by the Consejo Nacional de Poblacion (CONAPO) at the municipal level, are used to learn the migratory intensity of the

communities of origin. The origin of Mexican migrants has a strong inertial component (Massey, Rugh, & Pren, 2010), with some municipalities of the country maintaining strong transnational links with the United States, while in others international migration is at a minimum. The work compares the differences between individuals living in municipalities with higher transnational links with individuals living in the rest of the country. To estimate the impact of migration intensity on subjective well-being, we follow an instrumental variables approach, taking advantage of the persistence of international migration in some municipalities due to the construction of migratory networks that facilitate the migration to other migrants in the same community. Then the migration intensity index in 2000 is the instrument of the migration intensity index in 2010.

The results using instrumental variables indicate that, once controls related to the size of locality, regions of the country, poverty rates, age, and education are included, higher migratory intensity is linked to greater life satisfaction for both men and women. When analyzing the emotional states, higher migratory intensity has mixed effects: men experience higher tranquility, but for women it reduces the states of joy and satisfaction, and increases the states of sadness or gloom. Altogether, the results are consistent with a positive effect of international migration found in the previous literature using objective measures of well-being, but also with negative effects on the emotional states of women, making more complex the relation between migration and development. The relationship is less positive if we exclude as controls human capital variables, potentially affected by migration (McKenzie & Rapoport, 2011). In that case, men have lower satisfaction with their perspective of future.

The following section describes data on subjective well-being and the empirical strategy. Section 3 presents and discusses the results. Finally, section 4 concludes.

2. Methodology

2.1. Measures of subjective well-being

Subjective well-being can be understood as one's cognitive and emotional evaluations of his or her life (Diener, Lucas, and Oishi, 2002). The broad definition of subjective well-being includes at least three dimensions: (i) a thoughtful evaluation of the life of a person or some aspect of it, (ii) the emotional states of a person, and (iii) a sense of meaning or purpose of life (OECD, 2013). The first instruments to measure subjective well-being initially included a single question about happiness or life satisfaction. As the study area has matured, multi-item scales were incorporated (Diener, Lucas, & Oishi, 2002; Stutzer & Frey, 2012). The guidelines prepared by the OECD for the measurement of subjective well-being include the possibility of five basic questions or the inclusion of specific modules for each of the dimensions of subjective well-being, which include questions about specific emotions and domains of life (OECD, 2013).

2.2. Data

Data on subjective well-being for this work come from the Modulo de Bienestar Autoreportado (BIARE) developed by INEGI, between August and November 2014, from the sample of the Modulo de Condiciones Socioeconómicas (MCS). The BIARE follows

the recommendations of the OECD (2013) in design, has as its target population those older than 18 years, intends to interview one person in each of 44,518 households, and was conducted through face-to-face interviews with a printed questionnaire. In the end, 39,274 individuals were contacted and expansion factors were adjusted to ensure representation nationally and by each of the states in the country. We were able to link this information with migratory indexes at the municipal level for 39,203 cases: 21,891 females and 17,312 males.

Questions 1 and 2 of BIARE are designed to establish life satisfaction in general. Question 3 lists 14 domains of satisfaction: social life, family life, affective life, standard of living, health, achievements, perspective of the future, time to do what the person likes, security, realized activity, housing, neighborhood, city, and country. Question 4 uses a battery of 11 phrases to establish the sense or meaning of the life of the interviewees (eudaimonia), 9 sentences with positive meaning and 2 sentences with negative meaning. Question 5 captures 10 emotional states that people may have experienced the day before the interview, beginning with five positive states: good humor, tranquility, vitality, concentration, and joy and satisfaction. Subsequently, five negative counterparts are examined: bad humor, concern and anxiety, fatigue, boredom, and sadness or gloom. All these questions use a scale of 0 to 10. The questionnaire also includes socio-demographic information and identifiers of household that can be merged with other information from the questionnaire in the MCS.

The objective of the study is to establish differences in subjective well-being between communities according to the intensity of the phenomenon of migration. The

information about the geographic concentration of migration comes from indexes of migratory intensity in 2000 and 2010 prepared by CONAPO from the information on the receipt of remittances, emigration, circular migration, and return migration in the population censuses of 2000 and 2010. Using these indexes, the CONAPO divides municipalities into six categories of migratory intensity: nil, very low, low, medium, high, and very high. Due to the low proportion of the population living in municipalities in the nil category of migratory intensity, we combine the populations from the nil and very low categories of migratory intensity. The information of these indexes and categories is available for the 2456 municipalities in the country. We use municipalities as a unit to define the differences in migratory intensity between communities. In addition, we use municipality-level data on incidence of patrimony poverty in 2000 from Mexico's Council for the Evaluation of Social Development Policy (CONEVAL).

Table 1 shows the descriptive statistics of the BIARE sample according to the category of migratory intensity. The first row reports the sample size. In the second line, we see the proportion of the population living in municipalities within each category of migratory intensity using weights provided by INEGI. While BIARE design is not representative for each migratory intensity category, the proportions of population roughly correspond to the proportion using the 2010 Census data. The majority of the population lives in municipalities with very low or low migratory intensity, 12.7 percent lives in municipalities with a medium migratory intensity, 7.8 percent in locations with high migratory intensity, and only 1.7 percent within the very high migratory intensity category.

[Table 1 around here]

The next group of variables represent socio-demographic conditions of respondents in each category. Age ranges between 42.3 and 45.5 years old, with a higher age for individuals living in municipalities with high migratory intensity. Schooling decreases as migratory intensity increases, with more than three years' difference between individuals living in municipalities in the very low category compared to those living in municipalities with very high migratory intensity. The head of household and sex variables show relatively small differences according to the level of migratory intensity, with the municipalities in the very high category including a greater proportion of respondents who are household heads and a lower proportion of men. With respect to geographic location, a higher level of migratory intensity is found in populations living in rural areas. A rural area is defined where localities have less than 2,500 inhabitants. In addition, we see higher poverty incidence at higher levels of migratory intensity.

The average value of the two general questions on life satisfaction shows a decrease in satisfaction as migratory intensity increases, whether it asks about life satisfaction today or life satisfaction five years ago. In addition to the three dimensions of subjective well-being recommended by the OECD, INEGI included additional questions to explore life satisfaction, but from a perspective of personal fulfillment, allowing analysis of the validity and consistency of the questions. Also, the scale range from 0 to 7. From this perspective, in the last line of Table 1 we include a general question about whether respondents considered themselves happy people. The results show that also in this case there is a decrease in the perception of happiness as the level of migratory intensity increases. Table 1 also shows significant differences in socioeconomic conditions

approximated by schooling and poverty incidence in 2000, variables that can influence subjective well-being. There are also important differences in the geographic location of the municipalities having a high migratory intensity in the national territory: those with a greater migratory intensity are still primarily rural. It is important to note that, if there are variables not reported in Table 1, which are decreasing the subjective well-being and at the same time causing international migration, a negative correlation between subjective well-being and the migratory intensity indexes does not necessarily have a causal interpretation. The empirical strategy to determine whether the differences remain, nullify, or reverse when considering these factors is explained in the next section.

2.3. Empirical strategy

To learn the effect of the migratory intensity on subjective well-being reports, we estimate the following equation:

$$S_{im} = \alpha + \beta Int_m + \gamma X_i + \varepsilon_{im} \qquad (1)$$

The variable of result S_{im} is the response of the individual i in the municipality m to questions on life satisfaction in general, some of the 14 domains of satisfaction, or any of the 10 emotional states included in BIARE. The parameter of interest is β, measuring the effect of an increase in the migratory intensity, Int_m , on subjective well-being measures. If the positive effect found in more objective measures of welfare in the prior literature is perceived as the same form by individuals, the hypothesis is that β is positive in the

domains of life related to material elements, with that effect possibly coming from remittances. On the other hand, from the literature that has indicated that migration produces emotional problems, we expect an increase in the negative emotional states and a decrease in positive ones. International migration is and activity in which men are more involved, and has substantially altered the roles of gender in the migratory communities, then results are estimated separately for women and men. Throughout the estimations, we assume that there is heteroscedasticity in errors and that they are correlated at the municipal level.

According to the information in Table 1, as the migratory intensity changes, some other variables that influence subjective well-being also change. These variables are added as controls to avoid the effect on β being confused with the effect of other variables X_i on subjective well-being. There are many variables that have been associated with subjective well-being (OECD, 2013) and migration affects economic and social life of the communities of origin through multiple channels. It is therefore important to be cautious about including them because the effect could be partly due to migratory intensity. For example, if we include an income variable, this could be capturing the effect of remittances in the local economic activity, beyond the direct effect of remittances on receiving households. For this reason, this work includes only a minimum set of control variables. At first instance, we will include a variable of geographic location to control for the differences in the construction of subjective well-being between locations with a greater rural or urban influence in Latin America (Graham, 2008) and also to control for the cultural differences between regions of the country. For this, X_i includes a binary variable for four different sizes of locality: less than 2,500 inhabitants, between 2,500 and 14,999

inhabitants, between 15,000 and 99,999 inhabitants, and 100,000 or more inhabitants. The first set of controls also includes a regional classification of Mexico in six regions according to Hanson and Woodruff (2003): Border, North, Center, Capital, Peninsula of Yucatan, and South. In addition, to control for overall characteristics in the past, that could affect the subjective well-being and are possibly correlated with involvement of community in migration we include patrimony poverty incidence in 2000 as control. In the second instance, as an additional set of controls, variables X_i includes age and schooling of the individual, with a possible quadratic effect of age on the construction of subjective well-being, these two variables are relevant to explain subjective well-being among Mexicans in previous literature (Fuentes & Rojas, 2001). Migration can have effects on human capital accumulation, with men being more negatively affected (McKenzie & Rapoport, 2011; then we expect a less positive effect without including this variables if human capital increase subjective wellbeing. Results allow evaluating this possibility.

On the other hand, there may be unobserved factors affecting the subjective well-being and migratory intensity, making β not necessarily a causal effect. For example, a decrease in regional economic activity can produce migration due to the lack of jobs and also dissatisfaction with aspects of life related to material welfare. We expect that regional and lagged poverty measures control for this possibility. An increase in insecurity in any region can produce an increase in migration and at the same time affect well-being related to satisfaction with security or with negative emotional states; however, evidence indicates a non-significant relationship between crime and international migration in Mexico (Basu & Pearlman, 2017).

To have a higher certainty of the causal interpretation of β , it is possible to take advantage of the fact that Mexican migration to the United States has an important inertial behavior. This is due to the construction of migratory networks in the past, allowing new migrants from the same community information and ways of coping with both monetary and psychological costs of the migration process. We can observe this relationship in Figure 1, which shows the correlation between the indexes of migratory intensity for the years 2000 and 2010. To prevent the parameter β capturing only the effect of other variables in the migratory intensity and subjective well-being, we can follow an instrumental variables approach, using the index of migratory intensity for the year 2000 as an instrument of the index of migratory intensity in 2010. Figure 1 shows a high correlation between both indexes, by which the instrument fulfills with the requirement of relevance in the strategy. In addition to this requirement, in order to be valid, the strategy requires that the instrument affect the dependent variable only through the endogenous variable; in other words, it meets the exclusion condition. For example, in our case this condition could be violated if regional economic crises that could result in a migration process also have a lasting impact on subjective well-being or if subjective predispositions to migration inherited from the past also influence answers to subjective well-being surveys. Our regional controls and poverty incidence in 2000 try to capture these possibilities. However, there is no test warranting whether the instrumental variable meets that condition when there is a single instrumental variable.

[Figure 1 around here]

3. Results

3.1. Life satisfaction

Tables 2 and 3 present the results of Equation (1) for women and men in the variables related to life satisfaction. The first two rows present the estimated β with the two general questions regarding life satisfaction as dependent variables, first with the current life and then with life five years before. The third row presents the results on a simple index consisting of the sum of each of the 14 domains of satisfaction in the BIARE. The following 14 rows present the results for each of these domains. Six estimates of the effect of the migratory intensity in 2010 are present in the columns of Tables 2 and 3, three with ordinary least squares (OLS) and three using the index of migratory intensity in 2000 as an instrument of the migratory intensity index in 2010. The tables only report the results where there is a statistically significant estimate of the effect.

The first column shows the result of OLS without any additional control. We can see a negative effect both for women and for men in some versions of the general questions, and in various domains of life; the exceptions are the domains of security, neighborhood, city, and country, for which both men and women reported greater satisfaction as the migratory intensity index increases. In the case of housing, women reported a negative effect. For both men and women, most of the significant effects for the domains of life in column I hold when a specification of instrumental variables without any control is used in column IV. In the case of general questions, the statistically significant negative effect on satisfaction with current life also holds for men.

[Table 2 around here]

[Table 3 around here]

Columns II and V report the OLS and instrumental variables estimate, adding as dummy variables the six geographic regions of the country, four dummy variables for the locality sizes and the poverty incidence in 2000 as controls. In the case of women, there is not any statistically significant effect in the OLS specification; however, when the estimation is done through instrumental variables, there is a positive effect on the domains of time to do what person likes, housing, neighborhood and country, a null effect on general questions and on the sum of domains. In the case of men, there are also more positive effects on life satisfaction than in the specification without controls. Column II of Table 3 shows a positive effect on the questions about current life and life five years before, using OLS. In the domains, a negative effect remains for the perspective of the future, but there are also positive effects on security housing, neighborhood, and country. When we use instrumental variables in column V, we find a positive effect on the general question about life satisfaction five years before, a negative effect on the domain of perspective of the future, and a positive effect on the satisfaction with neighborhood. A possible interpretation of the negative effect on perspective of future needs to take into account the fact that data were collected in 2014, after the economic crisis of 2008 and within a period of harder migratory law enforcement in the United States, factors that inhibited the positive perspectives for Mexican migration to the United States.

Results in columns III and VI, which add age, age squared and schooling as controls, show a positive impact of the migratory intensity for both men and women on life satisfaction. In the case of women, there is no statistically significant impact on OLS specifications, but using instrumental variables, we find positive effects of migratory intensity on three domains of life: time to do what the person likes, housing and neighborhood. These domains relate to more independence of women through labor force participation (Raphael, 2013) and the improvements of housing due to remittances. In addition, there is a positive effect on the sum of the points obtained in the 14 domains. In the case of men, using an OLS specification, we find a positive impact on the general questions about satisfaction with current life and with life five years before; this holds using instrumental variables. In the domains of satisfaction, using OLS specification, men exhibit lower satisfaction with the perspective of future and higher satisfaction with neighborhood, city and country as migratory intensity increases; when using instrumental variables, only positive effects result in five domains of life: social life, standard of living, health, housing and neighborhood. The last four domains highly relate to aspects that can improve with the use of remittances.

In general terms, Tables 2 and 3 show that there is less life satisfaction in municipalities with greater migratory intensity, but that this lower satisfaction is related to rural–urban, regional, and socio-demographic differences between municipalities' migratory intensity. Once is controlled for these aspects, a greater life satisfaction related to higher migratory intensity emerges in general, as well as in some domains, for women and men. To understand the magnitude of the effects, the standard deviation of migratory index is 0.69; the effect of an standard deviation in the migratory index correspond approximately

to the effect of a year of schooling in the questions about current life for men and in the sum of domains of satisfaction for women in the same specification. The last row in Tables 2 and 3 reports the results of the significance of the instrumental variable in the first stage. In the three specifications, the value of the F statistic in the first stage is high, so the relevance of the instrumental variable criteria is met. R^2 (not shown) values are typically low, as in previous literature about subjective well-being in México and Latin America (Fuentes & Rojas, 2001; Graham, 2008).

3.2. Emotional states

To measure emotional states, BIARE includes questions about five positive states; after, it includes as a counterpart five negative moods. Tables 4 and 5 show the results of the estimation of Equation (1) for these indicators of subjective well-being. They also include the results for two indexes, consisting of the sum of the scores of the five positive states and the sum of the scores of the five negative states at the beginning of each type of emotional state.

In the case of women, when we include the index of migratory intensity in 2010 as a single explanatory variable in column I of Table 4, corresponding to the OLS estimation, as the migratory intensity increases, the positive emotional states decrease. In addition, one of the negative states increases: sadness or gloom. Similar results appear with the instrumental variables specification in column IV of Table 4. In the case of men, the first column of Table 5 shows that, as the migratory intensity increases, the positive emotional states of vitality, concentration, and joy and satisfaction decrease; also, we note

an increase in the corresponding negative moods of fatigue, boredom, and sadness or gloom. There is no statistically significant difference in the sum of positive or negative emotional states. Using instrumental variable specification in column IV of Table 5 for men, we only find a statistically significant difference of a lower experience of joy and satisfaction when migratory intensity increases.

[Table 4 around here]

[Table 5 around here]

When we include as controls the variables of locality size, six regions of the country and poverty incidence, we observe a reduction of emotional states with statistically significant differences as the migratory intensity increases. In the case of women, column II of Table 4 shows that there is a negative effect on the positive state of tranquility and an increase in the negative state of sadness or gloom. When using the instrumental variables specification, we find a decrease in positive states of tranquility and of joy and satisfaction, and an increase in the experience of sadness or gloom. In the case of men, columns II and V of Table 5 show a more negative state of boredom using OLS and a positive effect on the state of tranquility in the case of instrumental variables. For both men and women, the results of columns II and V of Tables 4 and 5 show that there is no significant difference when we add the score of all positive or negative emotional states.

As in the case of the study of life satisfaction, columns III and VI of Tables 4 and 5 include as additional controls age, age squared and schooling. The results for women indicate a greater sadness or gloom using OLS specification. When we use the instrumental variables specification, besides the greater sadness and gloom, we find a lower emotion of joy and satisfaction. For men, the OLS specification of column III in Table 5 shows no single or index variable with statistically significant effects. Column VI of the same table shows a greater experience of tranquility during the previous day. The effect of a standard deviation in migratory intensity for women using instrumental variables in column VI are similar to the effect of a year of schooling in the same specification; while for men, the effect on tranquility corresponds to more than the effect of three years of schooling. Finally, the last row of Tables 4 and 5 shows the F statistic of significance of the instrumental variable in the first stage, which is equivalent to the specification in the study of life satisfaction.

In summary, the results on the emotional states show a mixed effect according to the gender, with negative effects for women and positive effects for men. This is consistent with previous literature that shows the phenomenon of migration and the changes this causes in the gender roles sometimes leading to conflicts in terms of the control of remittances and affective struggles related to family unity and maintenance of values, particularly for women (Arias, 2013; Jones, 2015; Suarez & Zapata, 2004). This offers a less positive view than we find when we concentrate only on evaluative criteria of life satisfaction, probably more influenced by the effect of migration and remittances on material domains.

4. Discussion and Conclusions

This research has shown that migratory intensity in Mexico is correlated with lower indicators of subjective well-being, but if we consider municipalities with the same geographic location by size of locality, regions of the country and poverty incidence, this negative relationship almost disappears and some positive relationships emerge. When we consider variables of age and schooling, we find a clear pattern of positive impact of migratory intensity on life satisfaction, but negative impacts on the emotional states of women as well as some positive impacts on emotional states for men. For this reason, the impact of international migration is not clearly positive in the communities of origin of international migrants in Mexico; particularly if we consider that a positive pattern for life satisfaction among men only happens when we correct for schooling, a variable that could be affected by international migration. Results using instrumental variables barely differs from OLS; however, when explaining life satisfaction among women, instrumental variables are more positive, which suggest that some benefits from migration in communities left behind only reach women after decades of the migratory process.

Data from this research only allow analyzing the results to the municipal aggregate level, so it cannot be established whether the impacts are due to direct impact on the migrants' families or to social change beyond them. However, results are consistent with a positive impact from remittances on income, at household and aggregate levels. They also are consistent with negative impacts on emotional states at the household level

produced by the absence of migrants, particularly among women. For other results, such as a greater sense of tranquility among men, it needs to be determined whether they are directly attributable to succesful return migration or other processes triggered by migratory intensity.

From a public policy perspective, although migration produces some positive impacts on subjective well-being, communities with higher migration intensity are below the national average in subjective well-being; therefore, Mexico requires development policies to aid this type of communities. In addition, the impact on emotional states of women, requires designing special policies to cope with social changes produced by migration. The above results must take into account the characteristics of the migration from Mexico to the United States and do not necessarily represent the effects for other countries or time periods. The data were collected in 2014, after an economic crisis, which significantly affected the economic opportunities of Mexican migrants and in a period characterized by the hardening of anti-immigration measures in the United States; both could be the cause of a lack of perspective of future among men.

References

Ambrosius, C., & Cuecuecha, A. (2013). Are remittances a substitute for credit? Carrying the financial burden of health shocks in national and transnational households. *World Development,* 46, 143–52.

Antman, F.M. (2010). Adult child migration and the health of elderly parents left behind in Mexico. *American Economic Review,* 100, 205–08

Arias, P. (2013). Las que se quedan: Actividades y condición femeninas en el campo mexicano. In E. Contreras (Ed.), *Los que se Quedan: Una Imagen de la Migración Internacional desde el Ámbito Local y del Hogar* (pp. 231–246). Mexico City: UNAM.

Aydemir, A., & J. Borjas, G.J. (2006). *A comparative analysis of the labor market impact of international migration: Canada, Mexico and the United States* (NBER Working Paper 12327). Retrieved from the National Bureau of Economic Research website: http://www.nber.org/papers/w12327

Basu, S. & Pearlman, Sarah (2017). Violence and migration: evidence from the Mexico´s drug war. *IZA journal of Migration and Development, 7, 18.*

Borraz, F., Pozo, S., & Rossi, M. (2010). And what about the family back home? International migration and happiness in Cuenca, Ecuador. *Journal of Business Strategies,* 27, 7–27.

Clemens, M.A., Özden Ç., & Rapoport H. (2015). "Reprint of: Migration and development is moving far beyond remittances. *World Development,* 65(C), 1–5.

Curran, S. R. (2016). Migration and development: Virtuous and vicious Cycles. In G. Hooks (Ed.), *The Sociology of Development* (pp. 311–39). Oakland, CA: University of California Press.

De Hass, H. (2010). Migration and development: A theoretical perspective. *International Migration Review,* 44, 227–64.

Demirgüç-Kunt, A., López-Córdova, E., Martínez, M.S., & Woodruff C. (2011). Remittances and banking sector breadth and depth: Evidence from Mexico. *Journal of Development Economics,* 95, 229–241.

Diener, E., Lucas, R., & Oishi, S. (2002). Subjective well-being: The science of happiness and life satisfaction." In Snyder, C. R., & Lopez, S.J. (Eds.), *Handbook of Positive Psychology* (pp. 63–73). New York, NY: Oxford University Press.

Esquivel, G., & Huerta-Pineda, A. (2007). Remittances and poverty in Mexico: A propensity score matching approach. *Integration and Trade,* 27, 45–71.

Fuentes, N., & Rojas, M. (2001). Economic theory and subjective well-being: Mexico. *Social Indicators Research,* 53, 289–314.

Graham, C. (2008). *Measuring quality of life in Latin America: What happiness research can (and cannot) contribute* (IADB Working Paper 652). Retrieved from Inter-American Development Bank website: https://publications.iadb.org/handle/11319/1632

Hanson, G. H., & Woodruff, C. (2003). *Emigration and educational attainment in Mexico* (University of California, San Diego mimeo) Retrieved from Child Migration Research Network website: http://www.childmigration.net/files/Hanson_2003.pdf

Hendriks, M. (2015) The happiness of international migrants: A review of research findings. *Migration Studies,* 3, 343–69.

Hildebrandt, N., & McKenzie, D.J. 2005. The effects of migration on child health in Mexico. *Economia Journal of the Latin American and Caribbean Economic Association,* 6, 257–89.

Jones, R. (2015). Migration pessimism and the subjective well-being of migrant households in Mexico. *Bulletin of Latin American Research,* 34, 305-323.

Massey, D. S., Rugh, J. S., & Pren, K. (2010). The geography of undocumented Mexican migration. *Mexican Studies/Estudios Mexicanos,* 26, 129–152.

McKenzie, D., & Rapoport, H. (2011). Can migration reduce educational attainment? Evidence from Mexico. *Journal of Population Economics,* 24, 1331-1358.

Organisation for Economic Co-operation and Development (2013). *OECD Guidelines on measuring subjective well-being*. Paris: OECD Publishing.

Raphael, S. (2013). International migration, sex ratios, and the socioeconomic outcomes of nonmigrant Mexican women. *Demography,* 50, 971–991.

Sacks, D. W., Stevenson, B., & Wolfers, J. (2010). *Subjective well-being, income, economic development and growth* (NBER Working Paper 16441). Retrieved from the National Bureau of Economic Research website: http://www.nber.org/papers/w16441

Simpson, N. B. (2013). Happiness and migration. In Constant, A.F., & Zimmerman, K.F. (Eds.), *International Handbook on the Economics of Migration* (pp. 393–410). Edward Elgar.

Stark, O., & Taylor, J. E. (1989). Relative deprivation and international migration. *Demography,* 26, 1-14

Stutzer, A., & Frey, B. S. (2012). Recent developments in the economics of happiness: A selective overview (IZA DP No. 7078). Retrieved from IZA Institute of Labor Economics website: https://www.iza.org/publications/dp/7078

Suárez, B., & Zapata, E. (2004). Ellos se van, ellas se quedan. Enfoques teóricos de la migración." In Suárez, B., & Zapata, E. (Eds.), *Remesas: Milagros y Mucho más Realizan las Mujeres Indígenas y Campesinas (*Vol. I, pp. 15-69). Mexico City: Grupo Interdisciplinario sobre Mujer, Trabajo y Pobreza.

Woodruff, C., & Zenteno, R. (2007). Migration networks and microenterprises in Mexico. *Journal of Development Economics,* 8, 509-528.

Table 1. Descriptive Statistics

	Migratory Intensity Category				
	Very Low	Low	Medium	High	Very High
N	11,779	17,128	6,019	3,442	835
Weighted population	0.394	0.384	0.127	0.078	0.017
Age	43.1	42.3	43.7	43.1	45.5
Schooling	9.55	9.24	7.48	7.06	6.35
Household head	0.38	0.39	0.39	0.39	0.40
Sex	0.44	0.44	0.43	0.42	0.42
Rural	0.12	0.18	0.39	0.51	0.63
Poverty Incidence 2000	0.44	0.48	0.61	0.66	0.67
Satisfaction: Current life	8.02	7.95	7.85	7.81	7.78
Satisfaction: Life 5 years before	7.95	7.86	7.82	7.78	7.85
Happy person	6.17	6.13	6.08	6.05	6.08
Migratory intensity index 2010	-0.93	-0.55	0.13	0.99	2.40

Source: Own elaboration with BIARE data.

Table 2: Migratory Intensity and Life Satisfaction: Women 18+

	OLS			Instrumental Variables		
	I	II	III	IV	V	VI
Current life	-0.12***			-0.08**		
Life 5 years before	-0.10***					
Sum domains of satisfaction						0.66*
Social life	-0.08***					
Family life						
Affective life	-0.09***			-0.10***		
Standard of living	-0.12***			-0.06*		
Health	-0.12***			-0.08**		
Achievements	-0.13***			-0.09***		
Perspective of future	-0.15***			-0.10**		
Time to do what person likes					0.09**	0.09*
Security	0.31***			0.30***		
Realized activity						
Housing	-0.06*				0.10**	0.10**
Neighborhood	0.10**			0.17***	0.10**	0.10**
City	0.23***			0.28***		
Country	0.17***			0.21***	0.11**	
F First Stage				644.58	472.66	471.35
Geographic Controls		Yes	Yes		Yes	Yes
Poverty Incidence		Yes	Yes		Yes	Yes
Individual Characteristics			Yes			Yes

Notes: Geographic Controls: indicator of the localityy size (less than 2,500 inhabitants, between 2,500 and 14,999 inhabitants, between 15,000 and 99,999 inhabitants, and 100,000 or more inhabitants) and six regions (Border, North, Center, Capital, Peninsula of Yucatan, and South). Poverty incidence: patrimony poverty from CONEVAL. Individual characteristics: age, age squared, schooling. Only significant results appear. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Table 3: Migratory Intensity and Life Satisfaction: Men 18+

	OLS			Instrumental Variables		
	I	II	III	IV	V	VI
Current Life	-0.08**	0.05*	0.07**			0.08**
Life 5 years before		0.09**	0.09***		0.09*	0.10**
Sum domains of satisfaction						
Social life						0.08*
Family life						
Affective life						
Standard of living	-0.11**					0.08 **
Health	-0.10***			-0.07**		0.06*
Achievements	-0.14***			-0.09**		
Perspective of future	-0.20***	-0.08***	-0.05*	-0.15***	-0.08*	
Time to do what person likes						
Security	0.34***	0.10*		0.28***		
Realized activity						
Housing						0.08*
Neighborhood	0.17***	0.11**	0.10***	0.23***	0.18***	0.17***
City	0.27***	0.09**	0.08*	0.27***		
Country	0.20***	0.11**	0.09**	0.22**		
F First Stage				527.95	358.66	329.10
Geographic Controls		Yes	Yes		Yes	Yes
Poverty Incidence		Yes	Yes		Yes	Yes
Individual Characteristics			Yes			Yes

See Notes Table 2. Only significant results appear. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Table 4: Migratory Intensity and Emotional States: Women 18+

	OLS			Instrumental Variables		
	I	II	III	IV	V	VI
Sum positive states	-0.43***			-0.45**		
Good humor	-0.06**			-0.06*		
Tranquility	-0.06*	-0.07*			-0.08*	
Vitality	-0.09**			-0.09**		
Concentration	-0.10***			-0.11**		
Joy and satisfaction	-0.12***			-0.15***	-0.11**	-0.09*
Sum negative states						
Bad humor						
Concern and anxiety						
Fatigue						
Boredom						
Sadness or gloom	0.12**	0.11**	0.10*	0.12*	0.15**	0.13*
F First Stage				644.58	472.66	471.35
Geographic Controls		Yes	Yes		Yes	Yes
Poverty Incidence		Yes	Yes		Yes	Yes
Individual Characteristics			Yes			Yes

See Notes Table 2. Only significant results appear. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Table 5: Migratory Intensity and Emotional States: Men 18+

	OLS			Instrumental Variables		
	I	II	III	IV	V	VI
Sum positive states						
Good humor						
Tranquility					0.09*	0.08*
Vitality	-0.07**					
Concentration	-0.08**					
Joy and satisfaction	-0.09**			-0.07*		
Sum negative states						
Bad humor						
Concern and anxiety						
Fatigue	0.10*					
Boredom	0.10*	0.10*				
Sadness or gloom	0.09*					
F First Stage				527.95	358.66	329.10
Geographic Controls		Yes	Yes		Yes	Yes
Poverty Incidence		Yes	Yes		Yes	Yes
Individual Characteristics			Yes			Yes

See Notes Table 2. Only significant results appear. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Figure 1. Migration Persistence at Municipal Level