ARE MIGRANTS REMITTANCES A SOURCE OF SAVINGS? A LIFE-CICLE PERSPECTIVE IN MEXICAN HOUSEHOLDS

(Extended abstract)

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Introduction

In the last decades there has been a constant growth of migration from Mexico to the United States (US). The US population that have been born in Mexico grew from 788 thousand in 1970 to 2 million 199 thousand in 1980, to 4 million 447 thousand in 1990, to 8 million 72 thousand in 2000 and to 11 million 812 thousand in 2007 (CONAPO, 2008). Such migration flows are affecting both countries not only in their demographic dynamics but also in social, economic and even political interrelations. This paper deals with remittances and its increasing impacts on migrants' families and the society in general. From a national perspective remittances constitute the second source of foreign currency, only after oil exports. According to Bank of Mexico figures, in 2007 remittances were very close to 24 billion dollars (24 thousand of millions), equivalent to 2.7 % of Gross Domestic Product.

Remittances are cash income for a considerable number of households, influencing family support and consumption patterns. By 1994 it is estimated that 1 million 76 thousand homes received remittances, 1 million 172 thousand in 1996, 1 million 258 in 1998, 1 million 396 thousand in 2000, 1 million 424 thousand in 2004 and 1 million 859 thousand in 2006, (CONAPO, 2008).

Opinions about opportunities and effects of remittances are divided. Some argue that remittances reduce income and social inequalities (Binford, 2002), set up small businesses which stimulate local production of goods and services (Conway and Cohen, 1998; Massey and Parrado, 1998), generate multiplying effects (Durand et al, 1996; Tuiran, 2002) and allow investments in health and education; all elements improving well-being and economic growth. Other scopes consider remittances as a wage mainly used to current home consumption and material reproduction (Canales, 2006), that are neither for saving nor a source for productive investments. In the Cuernavaca Declaration on Migration and Development (2005) it was mentioned that the remittances are not a source of capital enabling solutions to structural social and economic problems. It is necessary to add that in Mexico there are obstacles observed in other countries that limit the reach of the remittances, such as lack of public services and financial infrastructure in rural areas (Taylor et al, 1996).

Effects of remittances on homes and localities with a long and lasting migration tradition are diverse. There are towns that have being receiving remittances since many years ago, like Arandas in the State of Jalisco (Taylor, 1933) and Tangancicuaro in the State of Michoacan (Durand, 1988) that today they are prosperous and modernized mid-size towns in great part thanks to remittances. On the opposite, San Diego de Alejandria in Jalisco and Ario and Chavinda in Michoacan are towns that despite their historical migration to the US and the high use of dollars as every day currency show a lack of social and economic dynamism (Durand, 2006).

It is important to know the amount of remittances and how they are used when analyzing their impact. Available research reports show patterns in which resources are

mainly channeled through a prioritized scale of basic needs (Cortina et al, 2005). About two thirds are pocket money for daily living expenses. The scope of this paper is about the other third that goes to home improvements, health care, children schooling, and if there is a surplus for potential savings. The analysis must be focused in the interpretation and valuation of this remaining part. How remittances influence propensity to save and not just as a description of how they are spent (Taylor et al, 1996).

The objective is to seek better understanding of home savings from remittances. Since saving is a dynamic phenomenon it is important to keep track of its behavior throughout time. Thus, differences in rates of saving based on age are explored. Although there are extensive analyses of savings from this perspective, they do not exist within a longitudinal framework for the population receiving remittances in Mexico.

Review of literatura

The use of remittances modify through the course of life according to changes in needs and aspirations (Warnes, 1992; Giorguli and Lindstrom, 2004). Durand and Massey (1992) suggest that life-cycle circumstances, particularly the number of working members and dependents, explain the heterogeneity in the use of resources from migration.

Remittances from younger migrants, with small family responsibilities, are destined to debt payment, weddings, festivals, entertainment and temporary residence (Warnes, 1992). From migrant adults who already have a family of their own, remittances are destine to current consumption and family support (Durand and Massey, 1992; Massey and Basem, 1992) and the possibility of productive investments is low (Mooney, 2003). Under age increasing of family members, migratory experience increases, remittances are invested in agriculture inputs that rise productivity as equipment, fertilizers, insecticides and improved seeds, as well as land purchase (Massey, 1987) and the creation of small businesses. The family of older migrants direct remittances to savings, land, other businesses and support to other relatives (Conway and Cohen, 1998).

Theoretical framework and methods

The proposed theoretical framework is based on the Life Cycle Model by Modigliani and Brumberg (1954). The basic idea is that individuals and families plan their income, expenses and saving for the long run. Thus, in the years of youth, when income is low, debts accumulate. Later, in the years of maturity and the peak of active life and higher income, previous debts are paid and savings accumulate assets in preparation for retirement.

For this model it is desirable to have a series of consecutive observations on the same individual or family. Since this type of information is lacking, the pseudo-panels method is used. The technique was first proposed by Browning, Deaton and Irish (1985) and it relies on the construction of n groups or cohorts, each with a fixed membership that remains the same throughout the entire period of observation. Thus it is possible to follow the average behavior of variables related to these cohorts. In this paper each cohort consists of those households whose heads were born in the same five years period. For example, a cohort is composed by household heads that were born between 1953 and 1957, another cohort by those that were born between 1958 and 1962, and so on. In this form it is possible to follow the behavior of groups of homes through time, since the first cohort will have a mean age of 37 years old in 1992, year in which the first survey taken, and 51 years old during the last survey in 2006. This technique supposes that the composition of cohorts is constant throughout time.

According to Deaton and Paxson (2000) modeling the process of savings based on individuals' life-cycle for pseudo-panel data is denoted by:

$$\bar{s} = D^{e}_{\alpha s} + D^{c}_{\gamma s} + D^{a}_{\delta s} + X_{ct}\beta_{s} + u_{s}$$

where $\bar{s}$ is a vector column of the average saving corresponding to each cohort in each year.

$D^{e} + D^{c} + D^{a}$ are matrixes of age, cohort and year fictitious variables.

$D_{\alpha s} + D_{\gamma s} + D_{\delta s}$ correspond to vectors of coefficients of the effects of age, cohort and year upon average savings. β is a vector of coefficients of the independent variables and u_{s} is the error term.

Surveys, data and variables

Data comes from the National Survey of Home Income and Expenditures (ENIGH) 1992, 1994, 1996, 1998, 2000, 2002, 2004 and 2006. These eight surveys are cross section, with national representation for urban and rural areas. Data is on income, expenditures as well as demographic and socio-economic variables.

For the study there are 12 cohorts based on the age of the household head, thus providing 96 data sets. The sample was narrowed to those homes whose household head were between 15 and 75 years old and reported remittances income from abroad. There are assumptions that cannot prevail for several reasons. The process of formation and dissolution of families and households can change the cohort composition, mortality change household heads; other members might integrate particularly the elderly (Deaton and Paxson, 1998). These problems introduce biases in age structures, that later will be considered. For each cohort the mean value of each variable for each sample was estimated. The cohort definition, its age in 1992 and 2006 and the sample size are shown in Table 1.

Independent variables are the number of children (0 to 5), number of children (6 to 14), number of elderly (65 and over), number of workers, education and rural-urban. In the case of the continuous variables the average value by cohort and year is calculated. Education distinguishes when the head of the households never attended school, with primary, high school, or college. The percentage of households with studies at each level by cohort and year are specified. Less than 2500 inhabitants are rural and 2500 and over are urban. Variable age is the central value of the interval for each cohort and year. Age and cohort fictitious variables were included.

The dependent variable “rate of saving”, is the income minus consumption divided by income for each cohort. Income is defined after taxes, includes monetary and nonmonetary. Consumption includes the cost in nondurable goods, education, health, dwelling rental and cost of transferences, monetary and nonmonetary. Income and the consumption are deflected using the National Index of Prices and Consumption, 2002.

Graph 1 depicts the rate of saving by cohort. It shows that for households whose head is 65-75 years old, savings are highest. It is possible that the need to support children has disappeared and retirement is approaching.

Discussion

Statistical results by means of weighed minimum squares are shown in Table 2. Weights were inversely proportional to standard deviation of means of the dependent variable in each cohort. It is observed that for the rate of savings of those receiving remittances, age and cohort variables are jointly significant at 5 percent level. For the rest of the variables, ceteris paribus, results suggest that when the number of children (0 to 5) increases by one, the rate of saving diminishes approximately 0.004. When the number of elderly (65 and over) is increased by one, savings increases 0.003. This is a significant finding since traditionally the

elderly are regarded as burden threatening the well-being of the family. In this case it is possible that the elderly are providing a family income from work, pension or remittances allowing savings. When the number of family members with a job increases by one, savings increases 0.035. Savings by level of education is negative for no instruction (- 0,018), for primary is 0.107 and for high school does not have an expected value since it is - 0,074. Savings urban areas are 0,084, and for rural areas it is negative. The number of children (6 to 14) and high school or college instruction are not significant.

Age structures of the savings rate of those who receive remittances for the estimates in Table 2 are shown in Figure 2. Ceteris paribus, the difference in the level of savings with respect to the reference age (17 years) presents a growing profile in the early years until age 42. Between 43 and 59 years rates of savings are highest. From the 60 to 70 years it shows a positive and growing savings rate, which is contrary with assumptions regarding life cycles. It is possible that heads of households at these ages receive remittances intended to savings rather than consumption (Conway and Cohen, 1998). It could also be caused by a selectivity effect since increasing age also increases the percentage of households with best resources thus becoming a select population.

This investigation is a preliminary version which is part of the doctoral thesis. If it is accept for the IUSSP 2009 Congress, it will incorporate the findings and subsequent developments. By September 2009 the task will be completed.

Table 1. Cohorte profile

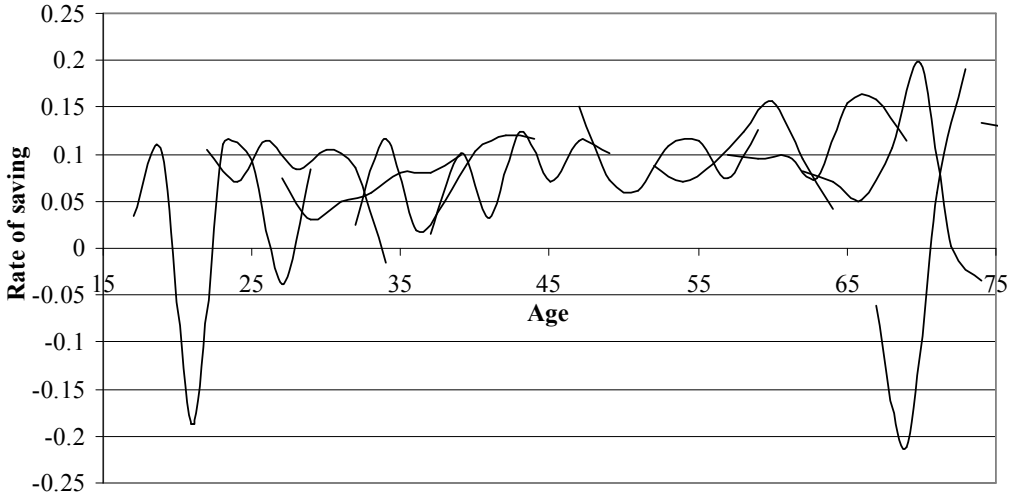
Cohort	Year of birth	Period	Age in 1992	Age in 2006	Sample size
1	1973 - 1977	1992 - 2006	17	31	356
2	1968 - 1972	1992 - 2006	22	36	501
3	1963 - 1967	1992 - 2006	27	41	554
4	1958 - 1962	1992 - 2006	32	46	589
5	1953 - 1957	1992 - 2006	37	51	612
6	1948 - 1952	1992 - 2006	42	56	609
7	1943 - 1947	1992 - 2006	47	61	618
8	1938 - 1942	1992 - 2006	52	66	622
9	1933 - 1937	1992 - 2006	57	71	497
10	1928 - 1932	1992 - 2002	62	76	351
11	1923 - 1927	1992 - 1998	67	81	123
12	1918 - 1922	1992 - 1994	72	86	47

Table 2. Statistical estimates

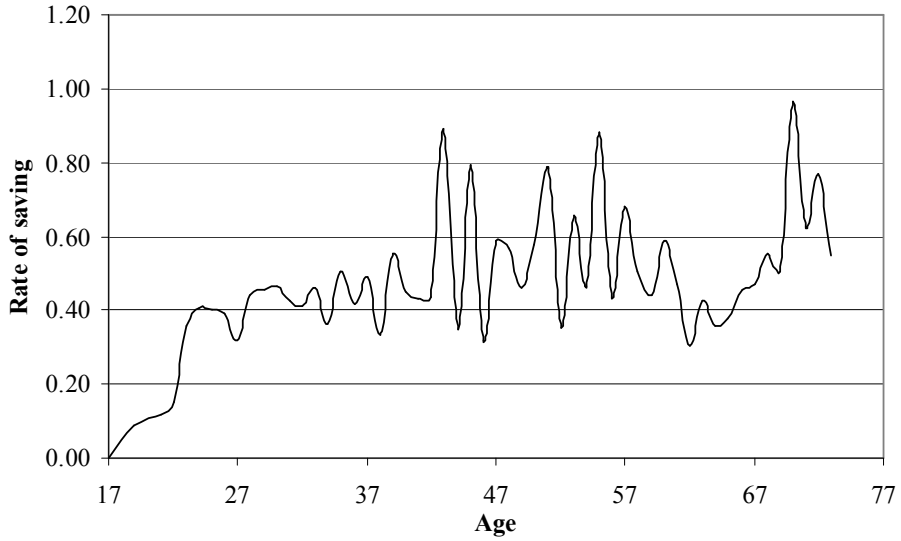
Variable	Coefficients
Cohort	0.047 [0.016]
Age	0.009 [0.019]
Children (0 a 5)	-0.004 (0.091)
Children (6 a 14)	0.009 (0.354)
Elderly (65 y más)	0.003 (0.094)
Workers	0.035 (0.063)
Education (on instruction)	-0.18 (0.057)
Education (primariy)	0.107 (0.000)
Education (junior high)	0.025 (0.586)
Education (high school)	-0.074 (0.053)
Education (college)	0.035 (0.352)
Locality (urban)	0.084 (0.010)
Locality (rural)	-0.082 (0.011)
R^2	0.75

*p.05; **p 0.01; ***p 0.001

Graph 1. Savings rate by cohorts



Graph 2. Age structures of the savings rate



Notes: Effects of age are normalized with respect to 0 to 17 years. A value of 0.36 for rate of saving at the age of 34 indicates that the level of saving rate at that age is 36% above the age or reference.

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