DO MIGRANT REMITTANCES AFFECT THE CONSUMPTION AND SAVING PATTERNS OF MEXICAN HOUSEHOLDS?

(Extended abstract)

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Introduction

The demographic transition in Mexico has resulted in increase of the absolute number and percentage of the working age population. However the difficult economic situation provokes migration from Mexico to United States (US). Such migration flows are affecting both countries, in their demographic dynamics and social, economic and political interrelations. A particular case is the economic impact of remittances in Mexico.

Remittances are received by significant numbers of households and have grown rapidly. Table 1 shows remittances behavior from 1994 to 2008, the value of remittances received in 1994 was $5 211 million, by 2006 had grown to $13 444 million and 2008 decreased to $7 693 million in real terms.

Opinions about opportunities and effects of remittances are divided. Until the eighties a pessimistic view prevailed, because it was said that remittances led to create dependency and apathy (Unger and Verduzco, 2000; Reichert, 1981 y 1982; Wiest, 1984; and Mines, 1981). However, the opposite view maintains that remittances can be one of the leading sources to finance the development. Remittances reduce income and social inequalities (Binford, 2002); set up small businesses, which stimulate local production (Conway and Cohen, 1998; Massey and Parrado, 1998); generate multiplying effects (Durand et al, 1996; Tuiran, 2002) and allow investments in health and education.

A critical issue in order to determine the impact of migration on the source country is how the remittances are used. Researchers have found that remittances are mainly used for consumption and investment in productive activities is less common. Since consumption and saving are a dynamic phenomenon, it is important to analyze the behavior of both throughout time. This paper analyzes the patterns of household consumption and saving over the life cycle. We focus on the differences in behavior among remittance-receiving households and non-remittance receiving households.

The remainder of this study is structured as follows. The first section discusses the theoretical framework and methods used to identify the life cycle patterns; the second section describes the survey, data and variables used for analysis. The third section analyzes the life cycle patterns of household consumption and saving.

Theoretical framework and methods

The conceptual framework on the background is the life–cycle model by Modigliani and Brumberg (1954). The more basic idea is that people plan their income and expenses for the long run. During childhood and old age, people on average consume more than they produce. During the middle years, people produce in excess of their consumption and save. Further, people tend to save more between the ages of 40 and 65, when they are less likely to be investing in their children and the need to prepare for their retirement is becoming more pressing (Bloom et al., 2003).

The age profile of consumption and saving in a single cross-section might not correspond, in the presence of strong cohort effects, to the age profile of any individual. To obviate this problem, the technique used is a pseudo–panels. The technique was 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, cohort one is composed by household heads that were born between 1920 and 1924, cohort two by those that were born between 1925 and 1929, 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 72 years old in 1994, year in which the first survey taken, and 74 years old during the next survey in 1996. This technique works with the assumption that the cohort population is constant throughout time. However, there are problems with migration, aging, death, divorce and remarriage, process whereby older people go to live with their children. They could be endogenous to the phenomena under study.

We analyze saving over the life cycle by using the approach of Deaton and Paxson (1993, 1998 and 2000). The saving rate is defined as:

$$s_{ct} = \alpha_c + A\beta + C\gamma + Y\delta + X\varphi + u_{ct}$$

where s_{ct} is a vector column of the average saving rates corresponding to each cohort in each period. A, C and Y are matrices of age, cohort and period dummies. β, γ and δ are the corresponding age, cohort and period effects on saving rates, and u_{ct} is the error term.

However, the identity age = period (year) – cohort (year of birth), implies that all three effects cannot be identified in a linear model. A number of "solutions" to this identification problem have been offered in the literature (Mason and Fienberg, 1985), all of which assume restrictions on the specification of the general model, usually by imposing some sort of functional form assumption on the way the three effects enter. We use a normalization provided by Deaton (1997), which makes the year effects orthogonal to a time trend, so that all growth is attributed to age and cohort effects:

$$d_t^* = d_t - [(t-1)d_2 - (t-2)d_1] \qquad t = 3, \ldots, T$$

where d_t is the usual year dummy, equal to 1 if the year is t and 0 otherwise.

Surveys, data and variables

The data we use come from Encuesta Nacional de Ingresos y Gastos de los Hogares (ENIGH) conducted by Instituto Nacional de Estadística y Geografía (INEGI). This survey, conducted each two years between 12 806 and 29 468 households, size of the survey varies from year to year. It has national representation for urban and rural areas. Data is on demographic and socio-economic variables, and detailed information about income and expenditures of each household. We use these cross–sectional data between 1994 and 2008.

For the study there are 11 cohorts based on the age of the household head, this give us a total of 88 cells. The household head is defined as the person recognized as the head by the household members (ENIGH, 2008). We eliminate from the sample all households headed by individuals younger than age 21 or older than age 79, which mitigates problems associated with the effects of changing headship, differential migration and mortality by age group. The cohort definition, age in 1994 and 2008, and cell size are shown in Table 2.

The main variable is the saving rates. Saving is defined as the difference between households disposable income and non–durables consumption, the saving rates is the ratio of saving to household disposable income. Disposable income is defined after taxes, includes monetary and non–monetary. Non–durables consumption excludes all components of expenditure that have an element of durability and includes monetary and non–monetary. Income and consumption are deflected using the National Index of Prices and Consumption, 2002.

Life cycle patterns

Figure 1 plots mean household disposable income, against the age of the household head. Income of remittance-receiving households is much flatter than an inverse–U shaped pattern,

rising until the head reaches age 51 and declining thereafter. In addition, levels of income are lower than non-remittance receiving households and remittances show a flat trend. While non-remittance receiving households income shows clearly the standard inverse–U shape, rising until the head reaches age 57. The period effects are clearly seen, with income falling for all cohorts over the 1994-1996 period, for peso crisis.

We begin with the distinction between different types of expenditures: non–durables consumption, durables consumption and capital expenditures. Figure 2 shows household non–durables consumption, it is very closely relates to disposable income, this explains that remittance-receiving households tend to have lower non–durables consumption. Figure 3 plots durables consumption; it is the piling up of consumers´ goods for future consumption, it is merely postponement of consumption, this type of saving is referred to as "plain saving". Household durables consumption shows inverse–U shape and consumption is similar between remittance-receiving households and non-remittance receiving households. Furthermore, the peso crisis still results in durable consumption falling between 1994 and 1996 for non-remittance receiving households. In figure 4 we show household capital expenditures, financial assets are the most important component. Capital expenditures are very important because are the accumulation of goods which are designed for an improvement of production processes ("capitalist saving"). The life cycle of capital expenditures shows a slight inverted–U shape and is very similar between both types of households.

Figure 5 plots mean household saving rates; we can see a substantial amount of noise. However, saving rates seem to decline in the early and last part of the life cycle between remittance-receiving households. The same is not true, however, of the profile for non-remittance receiving households. In the early life cycle saving rates are higher and saving rates are similar during the middle years and the end.

However, while we use smoothing techniques to present age, period and cohort effects, these can never be disentangled without additional information or restrictions from period effects, because of the exact linear relationship linking age, year and year of birth.

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Table 1. Remittance flows, 1994-2008

Year	Total remittances	Total remittances per capita
1994	5 211 201 464	7 833
1996	7 994 866 068	7 429
1998	7 994 070 200	6 821
2000	10 066 469 240	8 004
2002	8 796 638 970	6 301
2004	10 882 991 476	7 645
2006	13 444 126 780	7 233
2008	7 692 785 396	4 859

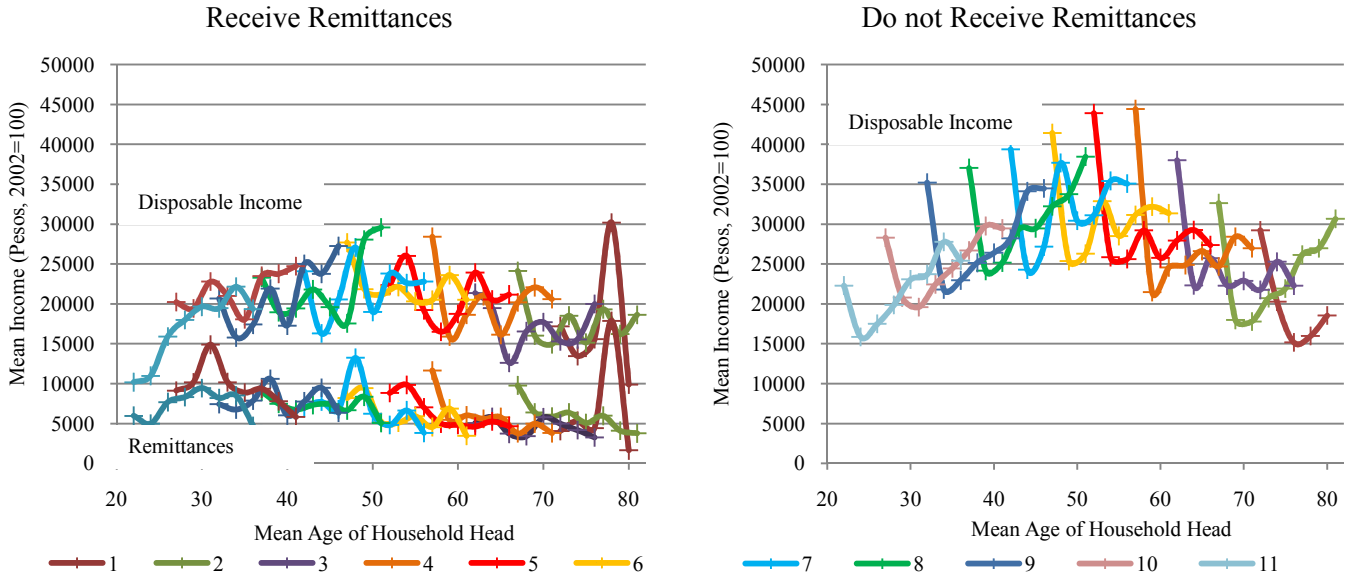
Source: National Survey of Incomes and Expenditures of Households, INEGI.

Table 2. Cohort Definition and Cell Size

Cohort	Year of birth	Period	Age in 1994	Age in 2008	Average Cell Size		Total
					Receive remittances	Do not receive remittances	
1	1920-1924	1994 - 2002	72		265	2 730	2 995
2	1925-1929	1994 - 2008	67		358	3 801	4 159
3	1930-1934	1994 - 2008	62	76	529	6 036	6 565
4	1935-1939	1994 - 2008	57	71	673	7 018	7 691
5	1940-1944	1994 - 2008	52	66	733	9 014	9 747
6	1945-1949	1994 - 2008	47	61	753	10 690	11 443
7	1950-1954	1994 - 2008	42	56	784	13 275	14 059
8	1955-1959	1994 - 2008	37	51	751	14 960	15 711
9	1960-1964	1994 - 2008	32	46	792	16 893	17 685
10	1965-1969	1994 - 2008	27	41	705	16 299	17 004
11	1970-1974	1994 - 2008	22	36	625	13 893	14 518

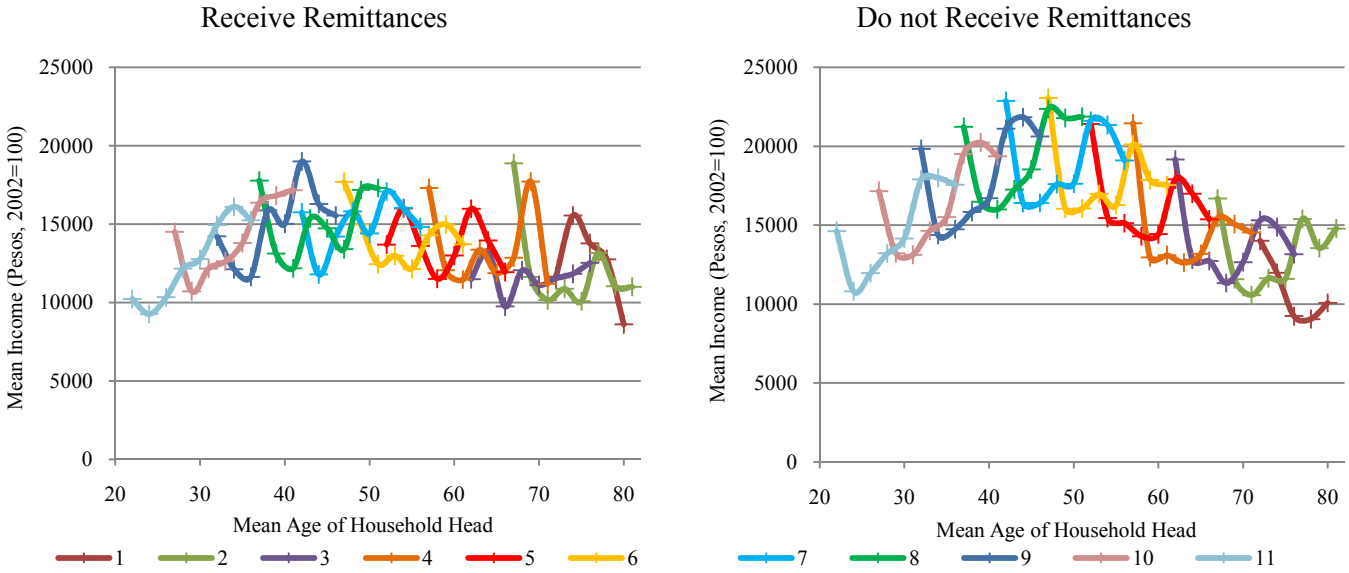
Source: National Survey of Incomes and Expenditures of Households, INEGI.

Figure 1. Household Disposable Income by Remittances-Receiving Status



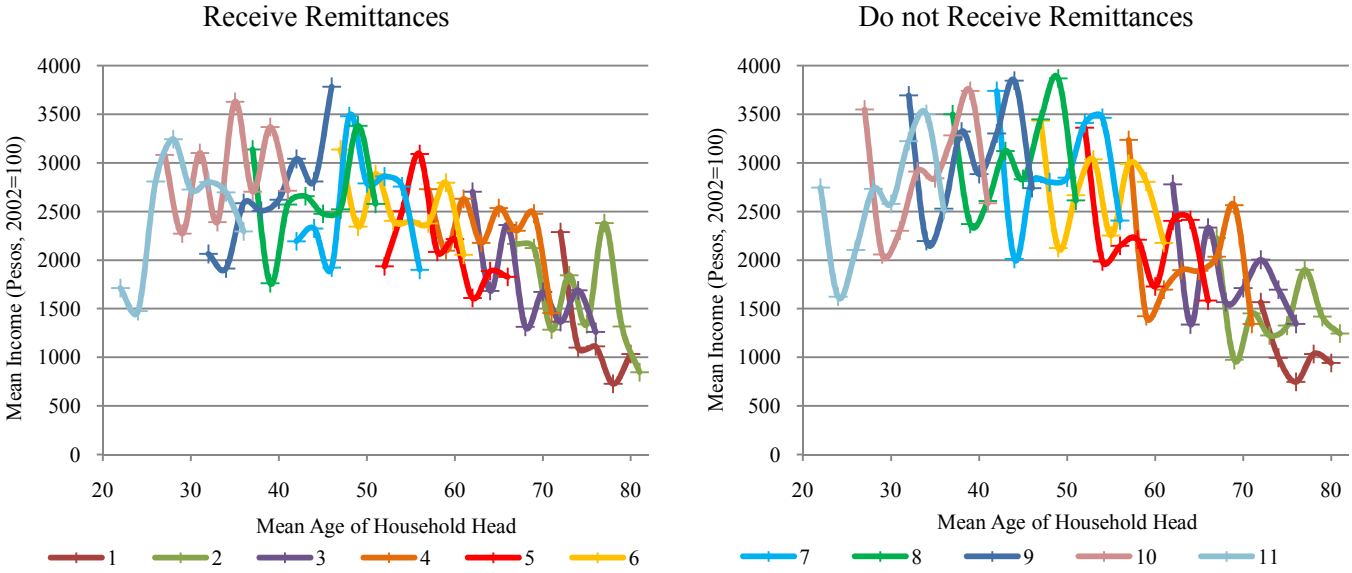
Source: National Survey of Incomes and Expenditures of Households, INEGI.

Figure 2. Household Non–Durables Consumption by Remittances-Receiving Status



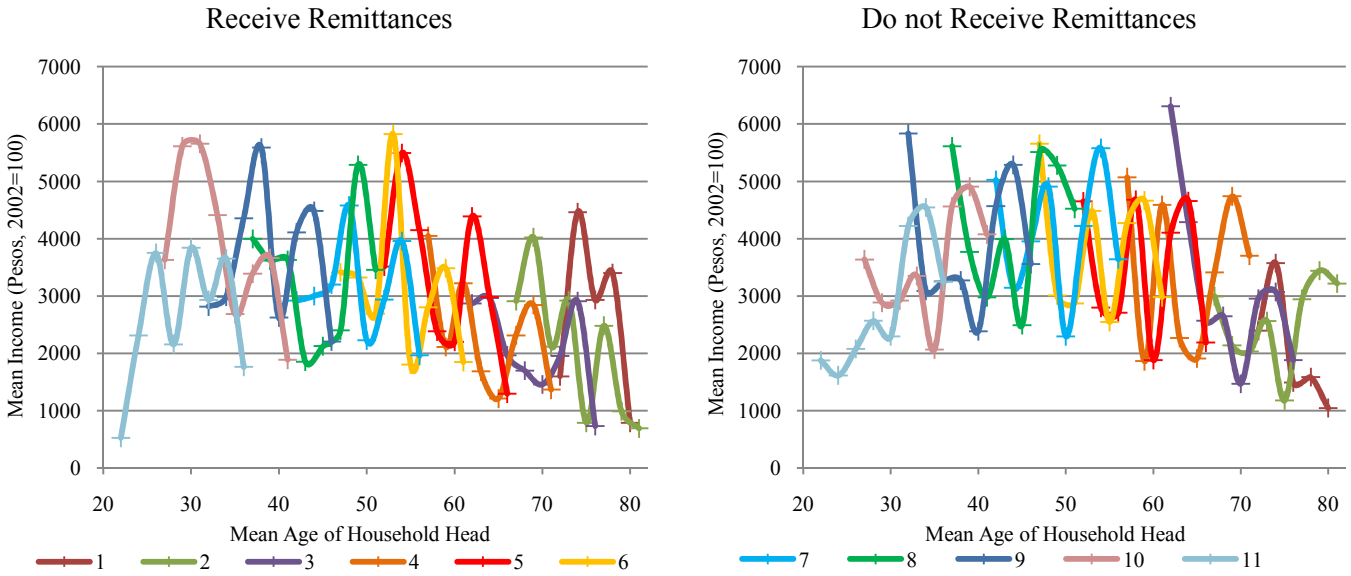
Source: National Survey of Incomes and Expenditures of Households, INEGI.

Figure 3. Household Durables Consumption by Remittances-Receiving Status



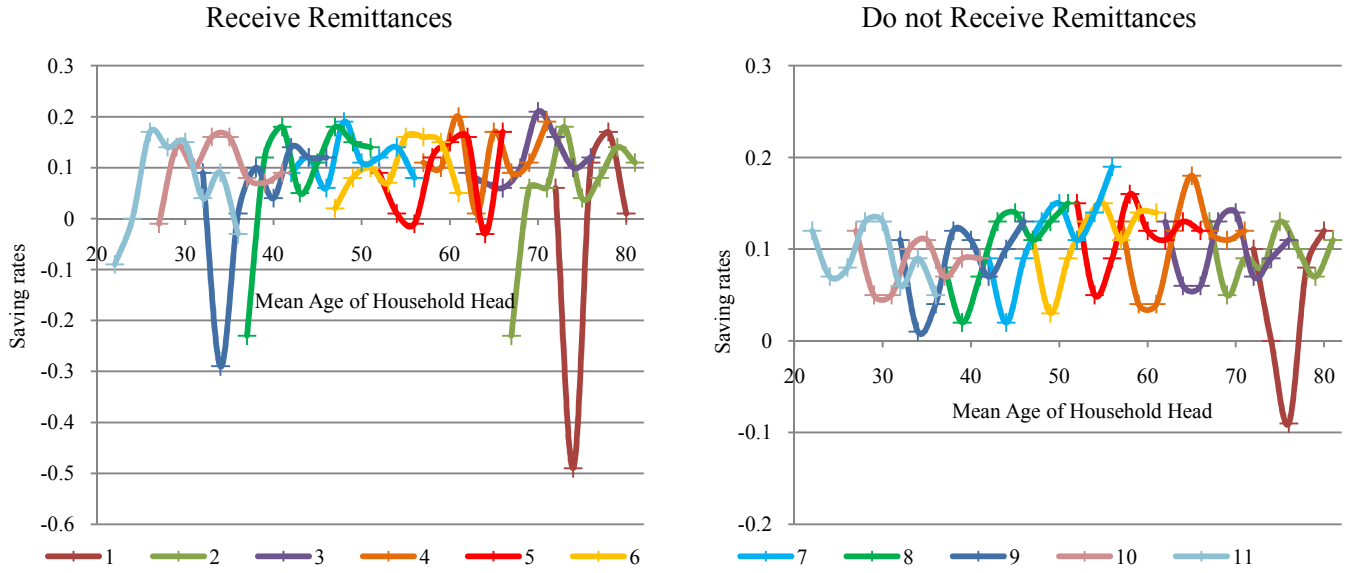
Source: National Survey of Incomes and Expenditures of Households, INEGI.

Figure 4. Household Capital Expenditures by Remittances-Receiving Status



Source: National Survey of Incomes and Expenditures of Households, INEGI.

Figure 5. Household Saving Rates by Remittances-Receiving Status



Source: National Survey of Incomes and Expenditures of Households, INEGI.

This paper is a preliminary version which is part of the doctoral thesis. If it is accept for the PAA, it will incorporate the findings and subsequent developments. By December 2010 it will be completed.