



INTER-AMERICAN DEVELOPMENT BANK
BANCO INTERAMERICANO DE DESARROLLO (BID)
RESEARCH DEPARTMENT
DEPARTAMENTO DE INVESTIGACIÓN
WORKING PAPER #432

**HOW DO SOCIAL SECURITY AND INCOME AFFECT
THE LIVING ARRANGEMENTS OF THE ELDERLY?
EVIDENCE FROM REFORMS IN MEXICO AND URUGUAY**

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OCTOBER 2000

**Cataloging-in-Publication data provided by the
Inter-American Development Bank
Felipe Herrera Library**

Shinkai, Naoko.

How do social security and income affect the living arrangements of the elderly? :
evidence from reforms in Mexico and Uruguay.

p. cm. (Research Department Working paper series ; 432)
Includes bibliographical references.

1. Social security--Mexico. 2. Social security--Uruguay. 3. Retirement income
--Mexico. 4. Retirement income--Uruguay. 5. Aged--Mexico--Economic conditions. 6.
Aged--Uruguay--Economic conditions. 7. Living alone--Mexico. 8. Living alone—
Uruguay. I. Inter-American Development Bank. Research Dept. II. Title. III. Series.

368.4 S38--dc21

82000

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Washington, D.C. 20577

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Abstract*

It has been shown that the social security system and other sorts of government transfers have helped poor elderly people, such as widows, to live alone in the U.S. This paper investigates whether government financial support contributed to the increase in the probability of the vulnerable elderly living alone in Latin American countries as well. Specifically, the countries that in the 1980s experienced government reforms favorable to the vulnerable elderly, Mexico and Uruguay, are examined. It is concluded that the improvement of educational attainment was mainly responsible for helping the elderly poor to live alone in rural areas in Mexico, and not the government system. On the other hand, in Uruguay, for unmarried elderly females, the increase in social security income explains most of the increase in the probability of living alone.

* This paper was submitted as the third chapter in partial fulfillment of the requirements for the degree of Doctor of Philosophy (Economics) at The University of Michigan in June, 1999. I thank Alan Deardorff, John Laitner, and Katherine Terrell for valuable comments. I also thank Suzanne Duryea and Tim Waidmann for inspiring suggestion. Finally, I would like to thank the household survey team members, Suzanne Duryea, Miguel Szekely, Marianne Hilgert, Ricardo Fuentes and Andres Montes for harmonizing data sets. The paper does not offer the view of the Bank but that of the author, to whom comments may be directed at NAOKOS@iadb.org.

1. Introduction

In the late twentieth century, there has been an increase in the number of the elderly who choose to live alone in the United States. According to previous studies, the change in the living arrangements of elderly people is enormous. For elderly widows who are considered poor, the percentage living alone increased from 18 percent in 1940 to 62 percent in 1990 (Kramarow, 1995 and McGarry and Schoeni, 1998). Various studies have searched for the cause of this enormous change in the family structure of the elderly, and most have concluded that having sufficient individual income is the key to explaining the increase in the percentage of the poor elderly living alone.

After Social Security was enacted in 1935 in the U.S., for instance, the program became the main source of income for elderly widows. About two-thirds of the increase in elderly widows and more than half of the increase in elderly nonmarried females living alone was caused by the increase in Social Security income after 1940 (McGarry and Schoeni, 1998 and Costa, 1999). This positive relation between these governmental supports, such as the Social Security system and other sorts of public transfers, and the percentage of widows living alone is the so-called “crowding-out” effect: as governmental financial supports increase, the percentage of the elderly living alone increases. If this effect obtains, governmental financial supports help the elderly poor to have more choices available for living arrangements and improve their quality of life.

This crowding-out effect, however, did not necessarily happen in the Latin American countries considered here. Although there were government reforms in certain countries in Latin America to help the elderly poor, and the same upward trend in the elderly living alone is observed in these countries, government supports were not necessarily responsible for producing this increase.

The countries examined in this paper, Mexico and Uruguay, undertook in the last two decades social security reforms designed to protect a certain category of the elderly. At the same time, the upward trend in the percentage of people living alone is observed for these countries.

In Mexico, about 20% of rural elderly people who are above 65 chose to live alone in 1984, whereas 24.6% chose to live alone in 1989 (Tables 1 and 2), an increase of almost 5% over a five-year period.

In Uruguay, only 25.7% of widows, 26.5% of single females, and 35.1% of divorced females who are over 65 chose to live alone in 1981. In 1995, 34.2% of widows, 30% of single females, and 40% of divorced females in the same age range chose to live alone (Tables 3 and 4). The fraction of widows who chose to live alone increased by almost 10 percentage points over these 15 years; this percentage increase is almost two times larger than what has been seen for elderly widows in the United States in the 1990s.

In Mexico, the social security reform by the Rural Solidarity Program, which started in 1973 and expanded in the late 1980s, targeted an expansion of the coverage of social security and of health care in rural areas (Mesa-Lago,1994). Health care was provided in exchange for community service of 10 days. Social security coverage clearly increased in rural areas, as shown in Tables 5 and 6. For rural males, coverage increased from 12.6% to 19.7%. For rural females, coverage jumped from 8.6% to 21.3%. The latter year's coverage is almost 2.5 times larger than the initial period's coverage.

In Uruguay, social security reform enacted in 1987 set a minimum pension (Mesa-Lago,1994). Those helped by this reform were poor elderly, such as unmarried elderly females, who earn below the average income. The average income for these groups jumped about 30%. The improvement in social security benefits is clarified by observing the average income provided by the social security system. The average total individual income was \$1,493.91, \$1276.38, and \$1647.49 in 1981 (in 1990 US dollars) for single females, divorced females, and widows, respectively. The averages rose to \$1,926.37, \$1,670.25, and \$2,135.78 in 1995. In the same period average social security income rose from \$1,275.76, \$1,089.99, and \$1,406.91 to \$1,645.76, \$1,426.35, and \$1,823.90 for single females, divorced females, and widows (Tables 9 and 10). Both the average total individual income and the average social security income for these elderly females increased by 29%, 31%, and 30%, respectively. These increases are much more than the average income growth for the general population between 15 and 65 years old, which is 12%. Social security coverage in Uruguay did not change much over time for any subcategory of the elderly, but it has shown a slight increase. The social security system in Uruguay is one of the oldest in the Western Hemisphere and its coverage is among the highest in Latin America. The coverage for single females and widows increased from 0.907 to 0.924, by 1.9 percent, and from 0.953 to 0.974, by 2.2 percent.

What, then, has brought about this remarkable increase in the elderly living alone in rural areas of Mexico? And why has the number of elderly livings living alone increased in Uruguay? Is there any positive link between increased governmental support brought by the social security reform and the increase in the percentage of the elderly living alone, as seen in the U.S.?

The results obtained in this paper show that in Mexico, governmental financial support actually has the opposite effect on the elderly people in rural areas, even when other socio-economic variables are taken into account. When they have social security, the elderly are inclined to live with others. In Mexico, it seems that when the elderly have more total individual income, they tend not to live alone.¹ In Uruguay, on the other hand, when people have more individual income, they tend to live alone.² In 1995, this trend is clearer than in 1981.

This paper investigates whether, in these Latin American countries, government financial support helped the vulnerable elderly to have better living conditions. I observe growth in social security income or total individual income, or coverage expansion of social security, in addition to improvement in educational attainment, as a proxy for lifetime earnings, and other demographic changes.³ The explanatory power of these variables for the increase in the percentage living alone is examined over time, using household surveys at different periods of time.

The next section summarizes the previous work on this issue, and the third section presents the model and estimation method. The fourth section briefly explains the data, and the

¹ In the Mexican data sets, reported individual income is not complete and almost half of the elderly population did not report their individual income.

² In order to see if there is any positive relation between individual income and living arrangements as observed in the U.S., individual income described by income decile is plotted with the percentage living alone for the elderly who reported their income for both countries (Graphs 1, 2, 5, and 6).

³ For the purpose of observing the effect of the demographic variables that could be related to the percentage living alone, age is graphed together with the percentage living alone (Graphs 3, 4, 7, and 8). In both countries, the percentage decreases as age increases. This is plausible because the health condition of the elderly becomes worse as they age. The relationships between living arrangements and age do not change when the patterns in the percentage of people living alone are examined by marital status (Graphs 9 and 10).

fifth section presents results and projections. The conclusion reviews the findings and and discusses their some policy implications.

2. Previous Studies

There is an extensive literature investigating the living arrangements of elderly people. In this section, the methods that have been used and the results that have been obtained are reviewed for studies that examine the determinants of living arrangements (specifically living alone vs. living with others) with a focus on income effects. There are several income effects on living arrangements of the elderly that have been considered in the past, and these effects can be categorized according to source of income: the effect through household total income, through the individual income of elderly people, through individual income of children, through private transfers, and through public transfers to elderly people.

Kotlikoff and Morris (1988) estimated the joint living choice of the elderly and their children, using as their sample the 1986 HRCA (the Hebrew Rehabilitation Center for the Aged), which covers the state of Massachusetts. They applied probit and logit models and found that both individual income of the elderly and children's income have negative effects on the probability of living with children. Other variables that show negative effects are health status, a dummy for males, a dummy for male children, and a dummy for married children. The authors conclude that the elderly tend to live alone when their own income is higher and also when their children's income is higher.

Böersch-Supan, Hajuvasiliou, Kotlikoff, and Morris (1992) used five surveys of HRCA during the period of 1982 and 1987 to see the effect of individual income of elderly people on three different choices of living arrangements: living independently (individually or with spouse), living with others, and living in an institution. They explored two of the three choices at a time using age, a dummy variable for gender, the number of children, marital status of the elderly, and various health indicators as explanatory variables. For females, they found that own income has a negative effect on living in an institution, applying a multinomial probit model.

Other researchers have investigated the effect of public transfers on living arrangements of the elderly, focusing on subcategories of the elderly.

Hoerger, Picone, and Sloan (1996) examined the effect of public subsidies on the choice of the disabled elderly for their living arrangements. They used two waves of the National Long-

Term Care Survey (NLTC), 1984 and 1989. The multinomial probit model was applied in order to observe the effect of public subsidies on three different choices of the disabled elderly: living independently, living intergenerationally, and living in an institution. Their specification for estimation involves four different types of explanatory variables: family financial resources, such as housing wealth; factors affecting formal and informal care prices, such as price of formal care and the number of children; government subsidies and policies, such as expected health subsidy; and health and demographic variables, such as marital status and health status. They discovered a significant negative effect of expected Medicaid home health subsidies (described in dollars per week) on living with children when independent living and intergenerational living were compared. Other variables that have significant negative effects on the probability of living in extended families were nonhousing wealth and a dummy variable for being married.

The income effect on living arrangements of the elderly prior to 1940 is studied by Costa (1997). The Union Army pension program was the first major pension program in the U.S. It became universal for disabled veterans by 1910. The percentage of veterans living alone also increased during the period of between 1900 and 1910. The study linked the pension records from the 1900 and 1910 censuses to the other characteristics of men in 45 Ohio companies; this sample resembles a national sample of Union Army veterans in terms of retirement status, wealth and status as head of household. The individuals studied were veterans who were not institutionalized and had retired by 1910. Costa found that Union Army veterans tended to live alone when monthly pension income increased. Monthly pension is the only variable that shows a significant negative effect on the probability of living in extended families: among all the independent variables considered, which included age, number of children, number of children squared, poor health, former occupation, illiteracy, immigrant status, and living in the Midwest.

McGarry and Schoeni (1998) analyze the effect of Social Security and governmental income aid to elderly widows in the long run, using data compiled from the 1940, 1950, 1960, 1970, 1980, and 1990 Censuses. A multinomial logit model is applied to investigate the effect of public transfers on four different types of living arrangements: living alone, living with at least one adult child, living in an institution, and other arrangements. Social security benefits, year dummies, and dummy variables for education, such as years of schooling between 9 and 11, and years of schooling 13 or more, show significant negative effects on the probability of living with children after controlling for other explanatory variables, such as 5-year age groups, immigrant

status, life expectancy as an indicator for health status, number of children, ethnic background, and lien law. Lien laws possibly have a positive effect on the probability of living with others since children may live with their elderly parents if their inheritance is reduced by the amount of governmental support paid to their parents. McGarry and Schoeni also separately studied the effects of public transfer on two choices: living alone and living with adult children. They reached the conclusion that Social Security has a negative effect on living with others for widows in the United States.

A recent study by Costa (1999) considered living arrangements of elderly widows between 1950 and 1990 and examined the effect of Social Security benefits primarily provided by Social Security Old Age Assistance (OAA) between 1940 and 1950 on the living arrangements of elderly nonmarried females. She used as independent variables the logarithm of average yearly payment from OAA in 1940 US dollars, ethnic background, a dummy variable for low education, a year dummy, the logarithm of labor income of heads between the ages of 25 and 44, fraction of labor force that is agricultural, and immigrant status. Among all these variables, the largest significant effect on the probability of living with others, which is represented by the fraction of nonmarried elderly females living with others, was found to be the negative effect of the logarithm of the average OAA payment. Costa inferred that 40% of the actual decrease in the fraction of nonmarried elderly females living with others was caused by the increase in Social Security benefits.

Following this work, a model based on people's utility from different living arrangements is utilized in order to study the effect of social security systems in Latin American countries.

3. Model and Empirical Method

This section presents the model. Hypotheses that are considered in this paper are:

1. The expansion of social security explains the increase in the elderly living alone.
2. Changes in demographic characteristics account for increases in the elderly living alone.

These hypotheses are examined for each subcategory of the elderly because the trend of living arrangements is different for different groups. Some subgroups have shown an enormous

increase in the percentage of the elderly living alone over time. For Mexico, rural males and rural females—the groups that show the most remarkable increase in the percentage of the elderly living alone—as well as urban males and urban females are analyzed. For Uruguay, where only an urban sample is available, single females, divorced females, and widows are compared.

In order to analyze the above relationship, first, a utility function is specified in the following way:

$$U_0 = U(X_p, \varepsilon, 0), \quad (1)$$

$$U_1 = U(X_p, \varepsilon, 1), \quad (2)$$

where 1 represents living with someone, and 0 represents living alone. U is the utility function under each situation. X_p is the set of measurable personal characteristics, and ε stands for unmeasured elements of utility in each living arrangement.

People will choose to live with someone when:

$$U_1 = U(X_p, \varepsilon, 1) > U_0 = U(X_p, \varepsilon, 0) \quad (3)$$

The characteristics in X_p include both economic and demographic factors: individual total income, dummy variables for age (the ages between 65-69, 70-74, 75-79, and over 80), gender, marital status, region (urban or rural), years of schooling (no school or some primary, primary completed, some secondary, secondary completed, some higher education), individual total income, and social security indicators (covered by social security or not, income from social security). In the estimations described below, the excluded category for age is 65-69, and for education it is “no school or some primary education.” All income variables are logarithms in 1990 US dollars.

There are other variables that can affect the living arrangements of the elderly. Life expectancy has lengthened in both countries. In terms of fertility, the number of children per woman has decreased. These factors could lead to an increase in the elderly living alone. Changes in these factors, however, are too small to explain the remarkable increase in the percentage of elderly people living independently in the medium run that is analyzed here (a period of 5 to 15 years) because these variables change very slowly. Also, female labor participation has increased over time. As stated in the previous studies, daughters are more likely

than sons to live with their parents. Some studies find the daughter's labor market participation causes a decrease in the elderly living alone. However, the causal link is ambiguous. One can equally argue that because more elderly become able to live alone and value privacy, their daughters begin to work outside. Other factors, such as life expectancy and social security income, do not present the same problems for establishing causality. For example, it is hard to make an argument that the elderly became healthier or richer through social security system, because they chose to live alone. Therefore, there is no opposite causal relationship between these factors and the increase in the elderly living alone.

In addition to this view, there is another way to look at this problem. One can think that the characteristics of people living together may affect elderly people's living arrangements. Since the data set limits us to using only the variables for the elderly, the characteristics of people living with the elderly will not be considered. (Furthermore, the endogeneity of the characteristics of people living together would be another problem, if one were to include those characteristics of others as independent variables in the estimation equation.)

I use a linear model

$$U_{1i} - U_{0i} = \beta' X_{pi} + \mu_i, \quad (4)$$

where μ is unmeasurable determinant of the utility difference between the two conditions.

The probability of living with someone becomes:

$$\begin{aligned} \text{Prob}(U_1 > U_0) &= \text{Prob}(U_1 - U_0 > 0) \\ &= \text{Prob}(\beta X_p + \mu > 0) \\ &= \text{Prob}(\mu > -\beta X_p) \end{aligned} \quad (5)$$

When μ is normally distributed with zero mean and unit variance, the probability of living with someone is:

$$\text{Prob}(\mu < \beta X_p) = F(\beta X_p) \quad (6)$$

with F is the cumulative normal distribution function.

This is estimated by a probit model with 1 meaning "living with someone" and 0 meaning "living alone".

I can examine the behavior of the elderly for each year. I can also use the data sets from different years together. The regression equation then is:

$$U_{1i} - U_{0i} = \beta' X_{pi} + \gamma D + \mu_{it} \quad (7)$$

where t is the time, and D is a dummy variable for year, hereafter referred to as the “year dummy”. γ is expected to be negative when a dummy variable for year indicates 1 for the later year and when more elderly people have chosen to live alone recently.⁴ This year dummy captures the change in the probability of living with others if such a change occurs.

The two hypotheses are investigated using the probit model based on equation (7) with pooled data. For the first hypothesis, the probability in the initial year is calculated by setting all variables at the mean level in the initial year. Then, only the social security variable is changed to the mean value in the later year. These two estimated probabilities are compared, and the size of the change that is caused by the increase in the coverage of social security is explored. The first and second hypotheses use this method for social security income (or the social security indicator) and demographic variables, respectively. These hypotheses clarify which of the above variables had the crowding-out effect on living with others.

Mexican Data

The quality of the Mexican income variable is poor for the elderly. If the estimation is conducted with an individual income variable, almost half (45% in 1984, and 46% in 1989)⁵ of the sample must be dropped. There are two ways to tackle this problem. One way is to use an income variable available outside of the sample. For example, the average income by state,

⁴ There is another way to capture the difference across years. The variation in the behavior of each age cohort over time can be picked up from a dummy variable for each age cohort:

$$U_{1i} - U_{0i} = \beta' X_{pi} + \gamma_1 D_1 + \gamma_2 D_2 + \gamma_3 D_3 + \gamma_4 D_4 + \mu_{it}$$

where D_1, \dots, D_4 are cohort-specific dummies: aged 66-70, aged 71-75, aged 76-80, and aged 81+ in the initial year (Deaton, 1985) and Jappelli and Pagano (1994). In this paper, year dummies are examined.

⁵ For Uruguay, the percentage of elderly people with missing income is 8% in 1981 and 6% in 1995.

gender, and age. Another way is to use an econometric method to correct for a possible selection problem existing in the data set. In this paper, the second method is applied.

The econometric model is:

$$I^*_i = \alpha X_{si} + \lambda_i \quad (8)$$

$$I = 1 \text{ if } I^*_i > 0$$

$$I = 0 \text{ if } I^*_i \leq 0$$

$$U_{1i} - U_{0i} = \beta X_{pi} + \mu_i \quad (9)$$

$$\begin{aligned} \text{Pr ob}(U_1 > U_0 \text{ and } I_i > 0) &= \text{Pr ob}(\beta X_p + \mu > 0 \text{ and } \alpha X_s + \lambda > 0) \\ &= \Phi_2(\alpha X_s, \beta X_p, \rho) \end{aligned} \quad (10)$$

where Φ_2 is the bivariate cumulative distribution function and ρ is the covariance between μ and λ . I is an implicit function for income, and if it is greater than zero, individual income is observed. This bivariate model was presented by Poirier (1980) as an extension of the Heckman selection model (Heckman, 1979) and has been used in various settings (for example, in the investigation of the determination of union status by Abowd and Farber, 1982).

In equation (8), $I=1$ means the elderly person reported his/her individual income, and 0 means that individual income is missing. In equation (9), the dependent variable is the probability of living with others: 1 applies to elderly people living with others, and 0 is living alone. Only if the elderly have 1 in the first equation (8) are they included in the second equation (9). Therefore, this is a nested bivariate probit model. In order to observe the effect, at least one independent variable that explains the missing income, but is not correlated directly with living arrangements, should be included in the first equation. There are several variables that can be considered. Labor market status, such as the unemployment rate of average young people living in the same type of household or in the same region, is a possible candidate. In this paper, as explanatory variables in the first probit model, I use the average age of the members of the household, the average labor market status of the members of the household, and years of schooling of each person.

In addition, the relation between these two decisions (whether to report income and whether to live with others) is represented by the correlation between the error term in the first

equation (8) and the error term in the second equation (9). For example, if elderly people tend to live with others when they report income, λ_i and μ_i will have the same sign and the correlation between these variables should be close to one. On the other hand, if elderly people tend to live alone when they report income, λ_i and μ_i will have the opposite sign and the correlation between these variables should be close to minus one. If there is no relation between these two decisions, the correlation between these error terms should be close to zero. In fact, in the analyses of this paper, the correlation between λ_i and μ_i was very close to one for all subcategories as I will review in the next section. Therefore, elderly people in Mexico tend to live with others when they report their income. As a result, in bivariate models the coefficients of income are expected to be smaller than those in probit models without any correction for a possible selection problem.

The more details from results using a bivariate probit model and using a probit model excluding people without income are compared and examined in the fifth section.

4. Data

The data used here are household surveys collected by the Inter-American Development Bank for a larger project with which the author has been involved. For Mexico, national surveys from 1984 and 1989 are used. The individuals are persons over 65 who reported basic demographic variables. Marital status variables and social security income are not available for Mexico, but the variable which indicates the coverage of social security is available at the individual level. The household survey in 1989 contains more observations. The number of people above 65 increased from 997 in 1984 to 2,697 in 1989. In both years, about 41% of the elderly are in rural areas, the number of observations being 404 in 1984 and 1096 in 1989. Females constitute 54% of total elderly people in both years. 533 observations in 1984 and 1440 observations in 1989 are elderly females. The elderly reported most demographic and economic variables, with the exception of total individual income. In the Mexican surveys, people report their individual income by themselves, one column for each. In the regression with total individual income as one of the independent variables, less than half of the elderly females are included because only about 29% (in 1989) to 39% (in 1984) of rural females and about 35% (in 1984) to 37% (in 1989) of urban females reported positive income. 226 observations (73 in 1984 and 153 in 1989) of rural females, 590 observations (156 in 1984 and 434 in 1989) of rural males, 450

observations (116 in 1984 and 334 in 1989) of urban females, and 744 observations (207 in 1984 and 537 in 1989) of urban males are used in the regression examining the effect of total individual income on the probability of living alone.

For Uruguay, surveys from 1981 and 1995 are used; these surveys, however, cover only urban areas. For Uruguay, both marital status and income through the social security system are available.⁶ The latter year's survey contains more observations and the number of elderly increased from 3,826 to 9,806. More than half of the elderly population is female (59% in 1981 and 61% in 1995). The distribution of each marital status group of elderly females stays the same. Specifically, widows are dominant and 53% in 1981 (1,190 observations) and 52% in 1995 (3,070 observations) of elderly females are widows. In Uruguayan surveys, the majority of elderly people reported total individual income and social security income. About 92% of single females, about 85% of divorced females, and about 96% of widows reported their social security income. However, only 62% of married females in 1981, and 73% in 1995, reported individual social security income. 736 observations of single females (223 in 1981 and 513 in 1995), 376 observations of divorced females (80 in 1981 and 296 in 1995), and 4,124 observations (1,134 in 1981 and 2,990 in 1995) of widows are used in the following regression analyses.

Institutionalized elderly are not included in the following analyses.⁷

5. Results

This section explores the relation between individual incomes that are increased by governmental reform in the social security system and the percentage of the elderly living alone. Privacy is a normal good. Because of the budget constraints of elderly people, they previously could not afford to live alone or to purchase privacy. After income is increased, they may become able to live alone. If more elderly people can manage to live alone, this fact indicates better living conditions for the elderly. Government reforms targeted certain categories: the elderly people in

⁶ It is ideal to restrict the sample to the elderly who have at least one child if there is a large variation in the number of children across elderly people, but the information on the number of children is not available.

⁷ For Mexico, household surveys do not include elderly people who are institutionalized. For the Uruguayan 1981 data, the elderly who live with more than five non-relatives are excluded, according to the definition that is used in the previous literature. There are two in 1981 who fall into this category, and here is no one in this category in 1995.

rural areas in Mexico, and elderly females (except those who were married) in Uruguay. Therefore, the positive link between increased income and the probability of living alone is expected particularly for these categories.

In Uruguay, there is a significant positive effect of the jump of social security income on the probability of unmarried elderly females' living alone. Of all elderly females, excepting those were married, this income effect (a negative effect on the percentage of elderly females living with others) is the largest for single females as opposed to divorced or widowed females. This positive relation between social security income and the probability of living alone of elderly females coincides with the prediction of previous U.S. studies. Apparently, the government helped to improve the living conditions of elderly people.

On the other hand, in Mexico, social security income is not reported as a separate variable and individual income (that should contain the information about the increase in disposable income through government aid in health care costs) is not reported by half of the elderly living in rural areas. Therefore, in order to see the relationship between governmental support and the probability of elderly people living alone, the social security indicator reported individually (0: not covered by social security, and 1: covered) is examined. Additionally, individual income is considered only for those who reported it, and the effects are examined in two ways: using only individuals who reported income, and controlled for the possible selection problem with reported income. Neither social security coverage nor individual income has the expected sign for the rural population. As described in detail below, the social security status indicates both free health care cost and poor health condition. Therefore, I need to interpret this negative effect of the social security indicator on the probability of living alone with caution. In addition, individual income after controlled for the selection problem with reporting income has a very small and insignificant effect on the probability of living alone. It appears that income does not matter much for elderly people when they make decisions on living arrangements in Mexico.⁸

In this section, the results from estimation are presented in the following order: first, the results from regressions using only urban population are presented for both countries and

⁸ It may be true that there has been some change in the preference of people over time. The data set used here is too short to analyze this possibility.

compared. Second, results are investigated for each subcategory (for Mexico, rural females, rural males, urban females, and urban males and for Uruguay, single females, divorced females, and widows). Finally, some outcomes from projections using the pooled regression with both years are considered and the previously stated hypotheses are investigated. All the results are reported by country.

Comparison of Regressions for Mexico and Uruguay

Before examining targeted subcategories for each country, the same specification is applied to the same subcategory–urban population by each gender–in both countries in order to compare the effect of the same explanatory variables on the probability of living with others.

In the following estimation, dependent variables are an indicator of living arrangements: 0 means living alone (with or without a spouse), and 1 means living with others. Independent variables include years of schooling (no school or some primary, primary completed, some secondary, secondary completed, some higher education); a dummy variable for age (ages between 65-69, 70-74, 75-79, and over 80); a social security indicator (0 means not covered by social security and 1 means covered by social security); a year dummy; and a constant. The excluded category for age is the age group between 65-69, and for education it is “no school or some primary education.”

For Uruguay, the social security indicator is constructed in a way that is consistent with the Mexican indicator. The social security variable in this regression is a dummy variable for reported social security income: 1 means reported positive social security income, and 0 means no reported social security income. In Uruguay, about 90% of the elderly population is covered by social security (Tables 7 and 8). Therefore, the social security indicator should have about the same effect as a constant term, because most people have 1 for the social security indicator. This comparison regression includes all the urban population in the data sets. There are 1,239 urban females and 955 urban males in Mexico, and 8,204 urban females and 5,428 urban males in Uruguay used in the regression.

Tables 11-14 report the effect of the social security indicator on the probability of living with others for the urban population in both countries. The social security indicators have positive effects on the probability of living with others, with the exception of urban males in Uruguay. The same indicator has a negative but insignificant effect on the probability of living

with others for urban males in Uruguay. It is possible that urban males who are not covered and have lower income tend to live with others. Another plausible reason for this negativity is that having social security is positively correlated with age and education. In this case, since both age and education have negative effects on the probability of living with others, the coefficient of social security income can be negative even when its pure effect is positive. For urban females and males in Mexico and for urban females in Uruguay, the social security indicator does not have a significant effect on the probability of living with others, and its coefficient is positive. The year dummy has a negative and significant coefficient in urban areas in Uruguay, but not in Mexico. This implies that, as far as urban areas are considered, in Uruguay there is a significant decrease in the percentage living alone over time, but not in Mexico. Education, especially some secondary education, is an important factor in explaining the increase in the percentage of the elderly living alone in urban Mexico for both females and males. It is significant and negative in urban Uruguay as well, although the size of the effect is not as large as in urban Mexico.

Next, the results are examined for each subcategory defined above by country. First, the results using the Mexican data are reported.

Mexico

In Mexico, I am able to estimate equation (7) with data on the rural population as well, which is the category the government targeted in the reform begun in 1973. I am mainly interested in the rural population and the effect of government support on their probability of living alone. In rural areas, the people who are covered by social security are free from the health care cost. In urban areas, however, social security does not include such aid. Since the effects of the social security system on the probability of living alone for both groups, the one targeted by the government and the other which is not, are very different, these groups are analyzed separately and compared.

Overall, the coefficients on the social security indicator did not come out with the expected sign for the rural population. They are positive as shown in Tables 15-26. When rural females have social security, they tend to live with others. This positive effect is somewhat lessened in urban areas. Although the coefficients of social security are negative for both urban males and urban females when education variables are omitted from the regression, they are not significant. Therefore, there is some positive relation between education, as a proxy for lifetime earnings, and being covered by social security in urban areas.

Tables 15-26 report both coefficients and marginal effects for Mexico at the mean value of explanatory variables by sub-categorized group, rural females, rural males, urban females, and urban males. As explanatory variables, all possible demographic variables that have been used previously in the literature and that are likely to be relevant to the change in the percentage of those living alone over a five-year period are included in addition to the social security indicator. The number of children and life expectancy, which have been used in the previous studies analyzing the effect of these variables on the probability of living alone in the long run, are not likely to affect the percentage over the short run. As a result, they are not included in the regression. The dependent variable is an indicator of living arrangements as before: 0 means living alone and 1 means living with others. The explanatory variables are a dummy variable for educational attainments: no school or some primary, primary completed, some secondary, secondary completed, some higher education; a dummy variable for age: the ages between 65-69, 70-74, 75-79, and over 80; the social security indicator: 0 means not covered by social security and 1 means covered by social security; a year dummy; and a constant term. Excluded categories are no school or some primary education and the youngest age group, between 65 and 69.

In these pooled regressions, the year dummy that captures the trend in living arrangements has different outcomes for each of the subcategories. For rural females, in any regression, this year dummy comes out significant with a negative sign. This means that independent from the effects caused by other explanatory variables, there is a significant increase in the elderly living alone over this 5-year period. This trend is also shown for rural males. For females in urban areas, there is an increase in the elderly living alone again, though not for urban males. The coefficients of year dummies are smaller in urban areas than in rural areas. It is concluded that the significant trend in the fraction of the elderly living alone is found for the rural population but not for the urban population.

Among the effects of regressors on the probability of living with others, I am specifically interested in those of social security and of income. Therefore, the effects of these two variables are examined first.

Social security has a positive effect on living with others in rural areas, both for females and males, but this effect is not significant for males. This positive effect of social security is significant, though, for rural females. The estimation is conducted with and without education

variables; for rural females, the effect decreases when education variables are not included in the regression, and for urban females and males the effects decrease dramatically. Considering the fact that education is negatively correlated with the probability of living with others, social security and education are considered to be negatively correlated. This seems plausible for rural females, since covered people in rural areas tend to be poor. In urban areas, it may be true that people do not care about social security benefits when they are more educated and are likely to be wealthy. For rural males, the opposite is true and social security is positively correlated with education. The correlation between social security and income is interesting to observe and is investigated next.

The effects of social security go up when total individual income is included as a regressor for rural females and for the urban population. This indicates that social security is positively correlated with income while income is positively related with the probability of living with others. This is true for rural females and urban females. For urban males, however, income is negatively correlated with the probability of living with others and consequently social security is negatively correlated with income. Therefore, wealthy urban males are likely to be educated and also not likely to be covered by social security. This seems true when wealthy people do not have to depend on social security after retirement. For females, this scenario is not applicable, and they tend to depend on social security even when they are wealthy.

The next important factor for elderly people in deciding their living arrangements would be total individual income. Without correction for the possible selection problem with missing values of individual income, the reported individual income has a positive but insignificant effect in rural areas overall. When rural elderly have more income, they tend to live with others. Income variables have a negative effect for urban males, although this effect is not significant. This negative sign seems more plausible and consistent with the results that are obtained using the U.S. data after 1960.

For the purpose of observing the income effect more clearly, the regressions with and without educational attainment are compared. The effects of total individual income are weakened by exclusions of education variables for all subcategories. It is concluded that for rural females, rural males, and urban females, income is likely to be negatively correlated with their education. When urban males have more education, it is not clear what kind of effect higher education has on the probability of living with others. If education makes individuals more likely

to live alone, income is positively related with education. These income effects do not, however, take into account the possible selection problem with reported income that may exist in the data set. Therefore, these effects are likely to be biased, and the interpretation of the correlation between education and income is only for the selected individuals people if more educated people tend to report their income.

The effects of other independent variables are now reviewed. In rural areas, for males, younger age came out significant with a negative sign. This is consistent with the previous interpretation of age in the literature as an indicator of health condition. When age increases, health status worsens and a spouse tends not to survive. Therefore, it is harder to live alone.

The effect of the education variable, the primary completed education, has a significant negative effect on the probability of living with others for rural females. When elderly people complete primary education, the probability of living with others decreases by 13.8 percentage points for rural males and by 10.7 percentage points for rural females.

These results from the pooled regression are now used in order to see which variable contributes the most to the increase in the probability of living alone (or the decrease in the probability of living with others). All variables are set to the mean values in the initial year, 1984, and one variable at a time is changed to its mean value in 1989. The results are presented in Table 27. For rural females, when social security coverage is changed to the mean value in the later year, the probability of living with others goes up by 0.7 percentage points, from the estimated probability of 82.7% to 83.4%. When age variables are changed with the mean value of the age dummy for the ages between 75 and 79, the probability decreases by 0.1 percentage points. For the rural population, the variable that shows the largest contribution is education. When the mean value in 1989 is used for the education dummy for primary completed education, the probability of living with others drops by 3.4 percentage points from 0.774 to 0.740 for rural males. The estimated probability in 1989 for rural males is 0.747. Therefore, the second hypothesis is not rejected and the increase in the primary completion rate brings most of the increase in the elderly living alone for rural males. However, the first hypothesis is rejected for both rural females and rural males.

In short, in rural areas in Mexico, social security has a positive but not significant effect on the probability of living with others. The effect of social security in rural areas, however, needs to be interpreted with care. The social solidarity program, which targeted the rural

population, had the purpose of expanding social security coverage to the poor and to those likely to be unhealthy; this system is similar to Medicare in the U.S. The areas that this program targeted are selected based on 19 indicators of health condition and poverty. As a result, those areas had the highest rates of death by contagious and parasitic diseases and did not have water and waste disposal systems with certain qualities. Therefore, being covered by social security means that a person is likely to be poor and unhealthy. If this dummy indicates mainly poor health condition, individuals should have a tendency to live with others when they are covered by social security, and the positive effect of social security on the probability of living with others is expected. If social security frees individual income for health care, it should allow people to have more choices in living arrangements, including living alone. This predicts a negative relation between being covered by social security and living with others. With the data sets that are available, there is no way to separate out these two conflicting effects of social security on the probability of living with others. Therefore, it is possible that the insignificant effect of social security for rural males is caused by these two effects working against each other.

For rural females, some secondary education has a significant and negative effect, and for rural males, completed primary education has a significant and negative effect. Contrary to prior perceptions based on the results from the U.S. data sets, it is concluded that social security did not crowd out inter-generational living arrangements in rural areas. For urban areas, social security has a negative effect in the estimated equation without education. Crowding out may have happened in urban areas, but this effect is not significant. The small crowding-out effect is based on the fact that the social security coverage went up in urban areas with only a small increase in the percentage of elderly people living alone.

Next, the results from the biprobit model that corrects for the possible selection problem with income are considered. The biprobit model has two probit models with two discrete dependent variables: reported individual income or not, and living alone or not. The first probit model with a variable denoting reported income or not has several independent variables: the average age of the members of the household, the average labor market status of the members of the household, and individual years of schooling. The average labor market status is not related to the choice of living arrangements directly and is related to the labor market status in the region where each household resides. In this selection probit model, the dependent variable is an indicator for reporting income: 0 means income is not reported and 1 means reported. Except for

rural females, education is positively related to the probability of reported income. Therefore, when people have more education, they tend to report their income and vice versa.

After the possible selection problem with income is corrected in this way, the coefficients of individual income become smaller but still positive and insignificant for rural population and urban females. For urban males, the coefficient is negative but again smaller than that before correction and not significant. These decreases in the size of coefficients are possibly caused by the positive correlation between reported individual income and the probability of living with others. The correlation between the error term in the first probit model and the error term in the second probit model is very close to one. Therefore, elderly people in Mexico tend to live with others when they report income and this tendency contributes to the decrease in the coefficients of income. The effect of social security is still positive and insignificant for all subgroups and the size of the effects is smaller compared to the regression before correction. This decrease in the size is possibly explained by the negative correlation between living with others and having social security.

Uruguay

For Uruguay, the groups most affected by government reform are single females, divorced females, and widows. In Uruguay, information on income purely from the social security system is available for each elderly person. Therefore, it is possible to directly measure the effect of the increase in social security income caused by the government reform on the probability of the poor elderly living alone.

Both the percentage of individuals living independently and social security income went up for the elderly poor; specifically, the increase for widows is dramatic. An increase in social security income between two years for males is 9.4%, whereas that for widows is 29.6%. Moreover, males have social security income far above the average of all elderly people; the average social security income of males is above the average social security income of the elderly by 31.5% in 1981 and 23.3% in 1995. As a consequence, males are not likely to be affected by the establishment of the minimum pension in 1987. Similarly, married people are not likely to be influenced by the minimum pension, because when they live together with a spouse, the pension as a household should not be smaller than the average. Therefore, in the following analyses, the poor elderly, specifically, single females, divorced females, and widows, are

focused on in order to observe the effect of the increase in social security income likely to be induced by the settlement of minimum pension and the probability of living with others.

As before, as explanatory variables in equation (7), all the possible demographic variables that are considered to affect the probability of living alone are included, in addition to the social security income which is available for each individual in Uruguay.

The number of children and life expectancy are not likely to affect the probability of living alone over the medium run, since these variables changed by only a negligible amount (for example, the number of children of the average woman decreased by only 0.01 over a 15-year period). The health status variable that is found in the survey has no meaningful implication because, with the exception of fewer than 10 people, the rest of the elderly reported having no problems with their health.

Independent variables that are used now with the income from social security are a dummy variable for educational attainments, a dummy variable for age, and a year dummy. Excluded categories for the dummy variables are, as in the case of Mexico, no school or some primary education and the youngest age group with an age between 65 and 69.

First, the regression is examined for all females including the interacted terms (year dummies and marital status, the amount of social security income and marital status) in order to clarify if there is a statistically significant difference in the effect of social security income by marital status. If the test leads to a conclusion that there is a significant difference in the coefficients by marital status, I need to investigate the effect of social security income on the probability of living alone for each subgroup. Then, the estimation equation with the same specification is investigated by marital status for elderly females except married ones.

The effect of social security income on the probability of living with others is negative and significant for urban females in Uruguay. The effect of SS (social security) income is on average -0.064 (Table 28). Therefore, when SS income rises by \$1,000 per year, the probability of living alone increases by 4 percentage points. When the regressions with and without education variables are compared, the effect of SS income stays the same. This result implies that the correlation between education and SS income is very small when all urban females are examined.

However, when a dummy variable for married people is included, the coefficient of SS income decreases from -0.165 to -0.252 (Table 29). Dummy variables for younger age now

have negative coefficients and also the coefficient of the year dummy is closer to zero than that without a dummy variable for married people. Married people tend to be younger and the year dummy is negatively correlated with those persons. Considering the fact that married people do not have high social security income, the decrease in the coefficients of social security income is caused by weakened influences from age dummies and the year dummy. This dummy variable for married people can be considered as an indicator of having husbands who are alive. It is not possible to tell if divorced females have living husbands or not. This, however, is irrelevant for the probability of living alone because divorced females will not live with their ex-husbands. If husbands are alive, elderly females have a strong tendency to live alone (a category that includes living with a spouse).

When total individual income is included instead of SS income, the coefficient of total income comes out to be similar to that of social security income. The coefficients of total income are slightly larger than those of SS income. In regressions both with and without education variables, total income has an even stronger negative effect on the probability of living with others. One thing that is different from the previous result is that education now has a positive effect. This is because there is a positive correlation between total individual income and education. When total individual income increases by \$1,000, the percentage living alone increases by 4 percentage points on average for urban females in Uruguay.

When the effects of both total income and SS income are examined at the same time, the coefficients of total income are significantly negative. On the other hand, the coefficients of SS income are significantly positive. The absolute size of the coefficient of total income is larger in the regression with SS income than in the one without. Taking into account the negative relation between SS income and the probability of living with others, this shows that total income is positively related with SS income. This is true because for females more than 90% of total income is from social security (Tables A.1 and A.2). Total income and SS income are almost identical. In the following analyses, these two are examined separately.

Next, a joint test is conducted in order to observe whether there is a significant difference in the effect of SS income or year dummies by marital status. For SS income, these variables are interacted with marital status: single, widow, and married. Then, a joint test of the hypothesis of having zero coefficients for all the interacted terms is performed. The statistic is distributed as chi-squared, and the result rejects the possibility of these coefficients being zero. Similarly, a

joint test is performed for year dummies. The test again rejects these variables being zero. Therefore, the effects of these variables are different by marital status and it is better to conduct the regression analyses separately for each subgroup with different marital status.

Now the effect of SS income on the probability of living with others is explored for the poor elderly females that are most likely to be influenced by the government reform: single females, divorced females, and widows. The results for the effect of SS income are the same when urban females are examined by marital status. The results are reported in Tables 31-33. The effect of social security is negative and significant for all subcategories of poor elderly females. For example, a \$1,000 increase in annual SS income yields a 9 percent increase in the probability of living alone for single females, an 8 percent increase for divorced females, and a 7 percent increase for widows. The other variables that contribute to the increase in the percentage of living alone are year dummies. The trend in the percentage of elderly females living alone is captured by the year dummy. There is a 2 to 7% increase in the elderly living alone over this 15-year period of analysis that is independent from the effect of other variables. In the regression without education categories, the absolute effect of SS income is smaller for single females and widows and larger for divorced females. Education is mostly negatively correlated with the probability of living with others for single females and divorced females and is positively correlated for widows. Thus, SS income is positively related to education for single females and is negatively related for divorced females and widows.

Total income has a similar negative effect on the probability of living with others for all elderly females except those who are married. The changes in the coefficients of total income with and without education imply a positive relation between income and education for single females and a negative relation between income and education for divorced females and widows, as in the case of social security income.

Next, a projection is made using the results from the pooled regression. The estimated probabilities of living with others are compared for each subcategory. As shown in Table 34, the increase in SS income can explain almost 100% of the increases in the percentage of single females, divorced females, and widows. SS income definitely accounts for the largest portion of the increase in the percentage of living alone that occurred over this period. Other variables explain only less than 1% of the increase in the probability of living alone. The increase in the probability of the elderly living alone cannot be explained by any single variable other than SS

income. Therefore, the first hypothesis is not rejected but the second hypothesis is rejected for urban females in Uruguay.

If in the next 15 years the income from social security is doubled, and the effect of its change on the probability of living alone stays the same, 10% more single females, 9% more divorced females, and 8% more widows will live alone. Since these females represent 41% of the total elderly population, this change will bring about a 4% increase in the total elderly who choose to live alone, all other things equal.

In sum, the crowding-out effect of SS income on living with others is found for all subcategories of urban females in Uruguay and this effect is large and significant. This result is consistent with the study that examined the effect of OAA (the Old-Age Assistance program) and SSI (the Supplemental Security Income program) on the probability of living alone for widows in the U.S. in the late twentieth century using IPUMS (Integrated Public Use Microdata Series), as observed by McGarry and Schoeni (1998). The size of the crowding-out effect produced by the increase in SS income for urban females in Uruguay is similar to its effect for widows in the U.S. during the last two decades.

6. Conclusion

This paper has investigated whether the increase in social security benefits has helped protected elderly people to live alone: rural females and rural males in Mexico, and single females, divorced females, and widows in Uruguay. The results are fairly robust. In rural areas of Mexico, social security does not have a negative effect on the probability of living with others. For rural males, primary completed education, rather than social security, has a significant and negative effect on this probability. On the other hand, in Uruguay, for all subcategories who benefited most from the government reform, social security income consistently has a significant and negative effect. Therefore, the increase in social security income helps more single females, divorced females, and widows to live alone.

It is preferable for elderly people to have as many available choices of living arrangements as possible and to be able to choose to live alone when they wish. Also the fact that more poor elderly people became able to live alone indicates the improved quality of life for the poor elderly. In Uruguay, government financial support helps the elderly to choose to live alone. In Mexico, however, government transfers are not necessarily supporting the choice of living

alone. Despite the expansion of the coverage of social security in rural areas, people prefer to live with others. Only more education seems to change these traditional living arrangements and make more elderly choose to live alone in rural Mexico.

It may be plausible that social security does not have a crowding-out effect on living with others when the social security system is not a dependable financial source. The coverage of social security was less than 50% in Mexico in the late 1980s. Another reasonable explanation would be that privacy is an inferior good until income reaches a certain level. This seems true for Mexico. Graphs 1 and 2 suggest a U-curve relationship between income distribution and the percentage of people living alone. This implies that when people have more individual income they are likely to live with others up to a certain level of income.

In Mexico, although traditional living arrangements such as living in a large family seem preferred, completed primary completed education increases the probability of living alone by 10% to 13% in rural areas. In Uruguay, on the other hand, the increase in social security income by \$1,000 per year crowds out elderly people living with others by around 10% for urban females. If the policy is formed in order to enable poor elderly people to have more choices of living arrangements and to let them choose to live alone when they prefer, in Mexico, education is the key in rural areas, rather than social security in this period of analysis, and in Uruguay, the continual increase in the social security income is essential for urban females.

Apart from the influence of social security, there is also a question of the validity of measuring living standards by living arrangements in this region. Table A.4 shows the effect of individual income (log (total individual income)) on the probability of living with others in 17 Latin American countries in the late 1990s. In Argentina, Brazil, Chile, and Uruguay, the increase in income will significantly reduce the probability of living with others. In Colombia and Mexico, by contrast, the increase in income will raise the probability of living with others. The rest of the countries demonstrate the insignificant effect of income on the probability. Although it seems that not all the elderly prefer living alone when they become relatively wealthy, there is a tendency towards valuing privacy when it is possible. The question of living standard appears to require more investigation at the country level.

In this paper, the countries with social security reform enacted in the 1980s are examined in order to see the relationship between the increase in the governmental support and living arrangements in the elderly. It would also be interesting to study several countries with different

histories of their social security systems or with different income levels and observe if the preference changes over time or the limitation of income prevents people from choosing to live alone without any change in preferences in the long run.

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Table 1: Percentage of the elderly living alone: Mexico 1984

total			rural			urban		
age group	living alone (%)	obs.	age group	living alone (%)	obs.	age group	living alone (%)	obs.
65-69	0.193	337	65-69	0.166	118	65-69	0.207	219
70-74	0.174	298	70-74	0.216	119	70-74	0.147	179
75-79	0.235	164	75-79	0.290	74	75-79	0.191	90
80-	0.275	198	80-	0.159	93	80-	0.342	105
Total	0.212	997	Total	0.202	404	Total	0.218	593
females			males					
age group	living alone (%)	obs.	age group	living alone (%)	obs.	age group	living alone (%)	obs.
65-69	0.167	175	65-69	0.222	162	65-69	0.222	162
70-74	0.167	164	70-74	0.184	134	70-74	0.184	134
75-79	0.168	78	75-79	0.312	86	75-79	0.312	86
80-	0.250	116	80-	0.311	82	80-	0.311	82
Total	0.187	533	Total	0.243	464	Total	0.243	464
rural: females			rural: males					
age group	living alone (%)	obs.	age group	living alone (%)	obs.	age group	living alone (%)	obs.
65-69	0.124	55	65-69	0.203	63	65-69	0.203	63
70-74	0.204	63	70-74	0.231	56	70-74	0.231	56
75-79	0.273	31	75-79	0.305	43	75-79	0.305	43
80-	0.156	54	80-	0.164	39	80-	0.164	39
Total	0.181	203	Total	0.225	201	Total	0.225	201
urban: females			urban: males					
age group	living alone (%)	obs.	age group	living alone (%)	obs.	age group	living alone (%)	obs.
65-69	0.186	120	65-69	0.233	99	65-69	0.233	99
70-74	0.147	101	70-74	0.147	78	70-74	0.147	78
75-79	0.106	47	75-79	0.318	43	75-79	0.318	43
80-	0.307	62	80-	0.392	43	80-	0.392	43
Total	0.190	330	Total	0.257	263	Total	0.257	263

Table 2: Percentage of the elderly living alone: Mexico 1989

total			rural			urban		
age group	living alone (%)	obs.	age group	living alone (%)	obs.	age group	living alone (%)	obs.
65-69	0.216	926	65-69	0.249	370	65-69	0.194	556
70-74	0.252	673	70-74	0.279	284	70-74	0.233	389
75-79	0.289	500	75-79	0.291	213	75-79	0.288	287
80-	0.168	598	80-	0.161	229	80-	0.172	369
Total	0.228	2697	Total	0.246	1096	Total	0.215	1601
females			males					
age group	living alone (%)	obs.	age group	living alone (%)	obs.	age group	living alone (%)	obs.
65-69	0.228	480	65-69	0.202	446	65-69	0.202	446
70-74	0.223	366	70-74	0.292	307	70-74	0.292	307
75-79	0.298	254	75-79	0.278	246	75-79	0.278	246
80-	0.099	340	80-	0.264	258	80-	0.264	258
Total	0.208	1440	Total	0.251	1257	Total	0.251	1257
rural: females			rural: males					
age group	living alone (%)	obs.	age group	living alone (%)	obs.	age group	living alone (%)	obs.
65-69	0.270	175	65-69	0.228	195	65-69	0.228	195
70-74	0.247	148	70-74	0.316	136	70-74	0.316	136
75-79	0.284	91	75-79	0.295	122	75-79	0.295	122
80-	0.114	117	80-	0.221	112	80-	0.221	112
Total	0.230	531	Total	0.263	565	Total	0.263	565
urban: females			urban: males					
age group	living alone (%)	obs.	age group	living alone (%)	obs.	age group	living alone (%)	obs.
65-69	0.203	305	65-69	0.183	251	65-69	0.183	251
70-74	0.208	218	70-74	0.273	171	70-74	0.273	171
75-79	0.305	163	75-79	0.260	124	75-79	0.260	124
80-	0.091	223	80-	0.290	146	80-	0.290	146
Total	0.196	909	Total	0.242	692	Total	0.242	692

Table 3: Percentage of the elderly living alone: Uruguay 1981

total			females			males		
age group	living alone (%)	obs.	age group	living alone (%)	obs.	age group	living alone (%)	obs.
65-69	0.451	1341	65-69	0.430	765	65-69	0.478	576
70-74	0.444	1102	70-74	0.398	630	70-74	0.504	472
75-79	0.404	706	75-79	0.353	419	75-79	0.477	287
80-	0.291	677	80-	0.223	440	80-	0.418	237
Total	0.412	3826	Total	0.366	2254	Total	0.477	1572
			females: single			females: married		
age group	living alone (%)	obs.	age group	living alone (%)	obs.	age group	living alone (%)	obs.
65-69	0.355	82	65-69	0.562	361	65-69	0.562	361
70-74	0.241	62	70-74	0.612	214	70-74	0.612	214
75-79	0.256	43	75-79	0.634	93	75-79	0.634	93
80-	0.169	59	80-	0.527	55	80-	0.527	55
Total	0.264	246	Total	0.584	723	Total	0.584	723
			females: divorced			females: widow		
age group	living alone (%)	obs.	age group	living alone (%)	obs.	age group	living alone (%)	obs.
65-69	0.362	36	65-69	0.295	285	65-69	0.295	285
70-74	0.356	28	70-74	0.291	326	70-74	0.291	326
75-79	0.272	22	75-79	0.276	261	75-79	0.276	261
80-	0.500	8	80-	0.173	318	80-	0.173	318
Total	0.351	94	Total	0.257	1190	Total	0.257	1190

Note: 1 person did not report her marital status in 1981.

Table 4: Percentage of the elderly living alone: Uruguay 1995

total			females			males		
age group	living alone (%)	obs.	age group	living alone (%)	obs.	age group	living alone (%)	obs.
65-69	0.479	3290	65-69	0.471	1885	65-69	0.490	1405
70-74	0.488	2611	70-74	0.456	1551	70-74	0.534	1060
75-79	0.514	1798	75-79	0.455	1102	75-79	0.607	696
80-	0.418	2107	80-	0.343	1412	80-	0.571	695
Total	0.475	9806	Total	0.434	5950	Total	0.538	3856
			females: single			females: married		
age group	living alone (%)	obs.	age group	living alone (%)	obs.	age group	living alone (%)	obs.
65-69	0.283	159	65-69	0.580	948	65-69	0.580	948
70-74	0.245	143	70-74	0.648	572	70-74	0.648	572
75-79	0.405	106	75-79	0.673	285	75-79	0.673	285
80-	0.271	147	80-	0.706	170	80-	0.706	170
Total	0.294	555	Total	0.624	1975	Total	0.624	1975
			females: divorced			females: widow		
age group	living alone (%)	obs.	age group	living alone (%)	obs.	age group	living alone (%)	obs.
65-69	0.387	150	65-69	0.374	628	65-69	0.374	628
70-74	0.423	97	70-74	0.353	739	70-74	0.353	739
75-79	0.405	57	75-79	0.373	654	75-79	0.373	654
80-	0.326	46	80-	0.296	1049	80-	0.296	1049
Total	0.392	350	Total	0.342	3070	Total	0.342	3070

Table 5: Percentage of the elderly covered by social security: Mexico 1984

total			rural			urban		
age group	covered by social security (%)	obs.	age group	covered by social security (%)	obs.	age group	covered by social security (%)	obs.
65-69	0.266	337	65-69	0.043	118	65-69	0.384	219
70-74	0.363	298	70-74	0.137	119	70-74	0.509	179
75-79	0.195	164	75-79	0.102	74	75-79	0.268	90
80-	0.162	198	80-	0.147	93	80-	0.170	105
Total	0.262	997	Total	0.106	404	Total	0.357	593

females			males		
age group	covered by social security (%)	obs.	age group	covered by social security (%)	obs.
65-69	0.293	175	65-69	0.236	162
70-74	0.363	164	70-74	0.364	134
75-79	0.138	78	75-79	0.261	86
80-	0.123	116	80-	0.218	82
Total	0.253	533	Total	0.273	464

rural: females			rural: males		
age group	covered by social security (%)	obs.	age group	covered by social security (%)	obs.
65-69	0.020	55	65-69	0.064	63
70-74	0.110	63	70-74	0.168	56
75-79	0.100	31	75-79	0.104	43
80-	0.119	54	80-	0.191	39
Total	0.086	203	Total	0.126	201

urban: females			urban: males		
age group	covered by social security (%)	obs.	age group	covered by social security (%)	obs.
65-69	0.414	120	65-69	0.346	99
70-74	0.503	101	70-74	0.520	78
75-79	0.161	47	75-79	0.428	43
80-	0.126	62	80-	0.233	43
Total	0.342	330	Total	0.379	263

Table 6: Percentage of the elderly covered by social security: Mexico 1989

total			rural			urban		
age group	covered by social security (%)	obs.	age group	covered by social security (%)	obs.	age group	covered by social security (%)	obs.
65-69	0.377	926	65-69	0.251	370	65-69	0.460	556
70-74	0.327	673	70-74	0.223	284	70-74	0.398	389
75-79	0.291	500	75-79	0.204	213	75-79	0.346	287
80-	0.258	598	80-	0.108	229	80-	0.342	369
Total	0.321	2697	Total	0.205	1096	Total	0.396	1601
females			males					
age group	covered by social security (%)	obs.	age group	covered by social security (%)	obs.	age group	covered by social security (%)	obs.
65-69	0.373	480	65-69	0.381	446	65-69	0.381	446
70-74	0.285	366	70-74	0.285	366	70-74	0.385	307
75-79	0.280	254	75-79	0.280	254	75-79	0.303	246
80-	0.223	340	80-	0.223	340	80-	0.306	258
Total	0.297	1440	Total	0.297	1440	Total	0.352	1257
rural: females			rural: males					
age group	covered by social security (%)	obs.	age group	covered by social security (%)	obs.	age group	covered by social security (%)	obs.
65-69	0.266	175	65-69	0.237	195	65-69	0.237	195
70-74	0.232	148	70-74	0.232	148	70-74	0.212	136
75-79	0.245	91	75-79	0.245	91	75-79	0.175	122
80-	0.091	117	80-	0.091	117	80-	0.129	112
Total	0.213	531	Total	0.213	531	Total	0.197	565
urban: females			urban: males					
age group	covered by social security (%)	obs.	age group	covered by social security (%)	obs.	age group	covered by social security (%)	obs.
65-69	0.438	305	65-69	0.487	251	65-69	0.487	251
70-74	0.317	218	70-74	0.317	218	70-74	0.525	171
75-79	0.296	163	75-79	0.296	163	75-79	0.428	124
80-	0.292	223	80-	0.292	223	80-	0.413	146
Total	0.344	909	Total	0.344	909	Total	0.469	692

Table 7: Percentage of the elderly covered by social security: Uruguay 1981

total			females			males		
age group	covered by social security (%)	obs.	age group	covered by social security (%)	obs.	age group	covered by social security (%)	obs.
65-69	0.769	1341	65-69	0.762	765	65-69	0.778	576
70-74	0.873	1102	70-74	0.844	630	70-74	0.911	472
75-79	0.917	706	75-79	0.886	419	75-79	0.962	287
80-	0.934	677	80-	0.916	440	80-	0.966	237
Total	0.855	3826	Total	0.838	2254	Total	0.880	1572

females: single			females: married		
age group	covered by social security (%)	obs.	age group	covered by social security (%)	obs.
65-69	0.915	82	65-69	0.584	361
70-74	0.903	62	70-74	0.654	214
75-79	0.884	43	75-79	0.678	93
80-	0.915	59	80-	0.672	55
Total	0.907	246	Total	0.624	723

females: divorced			females: widow		
age group	covered by social security (%)	obs.	age group	covered by social security (%)	obs.
65-69	0.778	36	65-69	0.940	285
70-74	0.893	28	70-74	0.954	326
75-79	0.864	22	75-79	0.962	261
80-	1.000	8	80-	0.956	318
Total	0.851	94	Total	0.953	1190

Note: 1. 1 person did not report her marital status in 1981.

2. The social security coverage is based on the reported social security income. If they do not report social security income, they are considered as being not covered. Therefore, the coverage for married females may be underestimated.

Table 8: Percentage of the elderly covered by social security: Uruguay 1995

total			females			males		
age group	covered by social security (%)	obs.	age group	covered by social security (%)	obs.	age group	covered by social security (%)	obs.
65-69	0.774	3290	65-69	0.785	1885	65-69	0.759	1405
70-74	0.893	2611	70-74	0.892	1551	70-74	0.895	1060
75-79	0.940	1798	75-79	0.931	1102	75-79	0.954	696
80-	0.965	2107	80-	0.959	1412	80-	0.978	695
Total	0.877	9806	Total	0.881	5950	Total	0.871	3856

females: single			females: married		
age group	covered by social security (%)	obs.	age group	covered by social security (%)	obs.
65-69	0.873	159	65-69	0.667	948
70-74	0.924	143	70-74	0.770	572
75-79	0.953	106	75-79	0.799	285
80-	0.959	147	80-	0.846	170
Total	0.924	555	Total	0.731	1975

females: divorced			females: widow		
age group	covered by social security (%)	obs.	age group	covered by social security (%)	obs.
65-69	0.752	150	65-69	0.949	628
70-74	0.906	97	70-74	0.978	739
75-79	0.929	57	75-79	0.985	654
80-	0.913	46	80-	0.979	1049
Total	0.845	350	Total	0.974	3070

Table 9: Average social security income of the elderly: Uruguay 1981

annual income in 1990 US dollars

total				females				males			
age group	ave. income	std.dev.	obs.	age group	ave. income	std.dev.	obs.	age group	ave. income	std.dev.	obs.
65-69	1897.19	1962.68	1031	65-69	1439.91	1396.44	583	65-69	2491.88	2389.29	448
70-74	1807.91	1645.37	962	70-74	1393.79	1116.38	532	70-74	2319.68	2011.17	430
75-79	1712.96	1661.29	647	75-79	1391.16	1150.71	371	75-79	2145.21	2091.22	276
80-	1531.72	1335.98	632	80-	1381.57	1156.29	403	80-	1795.83	1572.27	229
Total	1763.93	1707.30	3272	Total	1404.90	1223.27	1889	Total	2253.93	2106.41	1383
females: single				females: married							
age group	ave. income	std.dev.	obs.	age group	ave. income	std.dev.	obs.	age group	ave. income	std.dev.	obs.
65-69	1528.39	1537.64	75	65-69	1230.45	1086.65	211	65-69	1628.99	1598.70	268
70-74	1494.88	1181.72	56	70-74	1263.83	881.93	140	70-74	1442.36	1223.11	311
75-79	1071.65	593.74	38	75-79	1338.76	1175.66	63	75-79	1465.46	1234.87	251
80-	1383.74	698.70	54	80-	1122.32	421.68	37	80-	1385.46	1219.29	304
Total	1407.00	1155.54	223	Total	1247.10	999.38	451	Total	1476.33	1324.29	1134
females: divorced				females: widow							
age group	ave. income	std.dev.	obs.	age group	ave. income	std.dev.	obs.	age group	ave. income	std.dev.	obs.
65-69	984.05	397.10	28	65-69	1628.99	1598.70	268	65-69	1628.99	1598.70	268
70-74	1292.03	622.09	25	70-74	1442.36	1223.11	311	70-74	1442.36	1223.11	311
75-79	1223.77	473.53	19	75-79	1465.46	1234.87	251	75-79	1465.46	1234.87	251
80-	2417.52	2500.66	8	80-	1385.46	1219.29	304	80-	1385.46	1219.29	304
Total	1280.59	969.08	80	Total	1476.33	1324.29	1134	Total	1476.33	1324.29	1134

Note: 1. 1 person did not report her marital status in 1981. Her reported social security income is \$1102.48.

Table 10: Average social security income of the elderly: Uruguay 1995

annual income in 1990 US dollar

total				females				males			
age group	ave. income	std.dev.	obs.	age group	ave. income	std.dev.	obs.	age group	ave. income	std.dev.	obs.
65-69	1977.10	1819.75	2549	65-69	1654.95	1541.06	1481	65-69	2424.28	2066.57	1068
70-74	2097.57	2090.81	2333	70-74	1727.15	1622.34	1384	70-74	2638.89	2534.74	949
75-79	2044.64	2053.80	1690	75-79	1711.64	1573.32	1026	75-79	2559.98	2546.59	664
80-	1905.65	1941.77	2034	80-	1697.33	1585.87	1354	80-	2321.84	2454.74	680
Total	2006.13	1972.10	8606	Total	1696.04	1580.48	5245	Total	2490.97	2383.35	3361

females: single				females: married			
age group	ave. income	std.dev.	obs.	age group	ave. income	std.dev.	obs.
65-69	1795.99	2050.77	139	65-69	1355.94	1150.39	633
70-74	1927.35	1674.73	132	70-74	1234.12	888.29	441
75-79	1698.45	1806.40	101	75-79	1224.96	698.63	228
80-	1684.11	1358.24	141	80-	1386.69	1229.27	144
Total	1779.73	1732.43	513	Total	1301.25	1024.69	1446

females: divorced				females: widow			
age group	ave. income	std.dev.	obs.	age group	ave. income	std.dev.	obs.
65-69	1753.94	1723.10	113	65-69	1920.31	1671.63	596
70-74	1628.80	1179.40	88	70-74	2002.55	1910.20	723
75-79	1609.62	2202.50	53	75-79	1893.38	1658.99	644
80-	1735.88	1453.22	42	80-	1741.02	1659.53	1027
Total	1688.38	1639.73	296	Total	1872.82	1727.93	2990

Table 11
 Probit of Probability of Living with Others: pooled
 0: living alone 1: living with others

Mexico: 1984, 1989
Urban females

N=1,239

Variables	Coefficients	Standard		Means
		Errors	Derivatives	
Education(primary completed)	-0.185	0.157	-0.053	0.182
Education(some secondary)	-0.545*	0.289	-0.178	0.043
Education (secondary or preparatory completed)	-0.370*	0.178	-0.115	0.034
Education (some higher education)	-0.442*	0.047	-0.141	0.013
Age (70-74)	0.074	0.092	0.020	0.290
Age (75-79)	-0.130	0.319	-0.037	0.164
Age (80+)	-0.021	0.431	-0.006	0.234
Covered by social security	0.026	0.122	0.007	0.343
Year dummy:1989	-0.018	0.044	-0.005	0.525
Constant	0.955*	0.039		

Note: 1. Standard errors are adjusted for correlations within year.

2 The coefficients of independent variables are significant at the 5 percent level (*).

3.The social security coverage is based on the reported social security income. If the elderly people do not report social security income, they are considered as being not covered. Therefore, the coverage for married females may be underestimated.

Table 12
 Probit of Probability of Living with Others: pooled
 0: living alone 1: living with others

Mexico: 1984, 1989
Urban males

N= 955

Variables	Coefficients	Standard		Means
		Errors	Derivatives	
Education(primary completed)	-0.065	0.460	-0.021	0.166
Education(some secondary)	-0.536*	0.085	-0.191	0.047
Education (secondary or preparatory completed)	-0.224	0.455	-0.075	0.027
Education (some higher education)	-0.618	0.486	-0.223	0.049
Age (70-74)	-0.046	0.279	-0.015	0.259
Age (75-79)	-0.302*	0.011	-0.101	0.148
Age (80+)	-0.449*	0.0003	-0.151	0.232
Covered by social security	0.028	0.169	0.009	0.427
Year dummy:1989	0.089*	0.005	0.028	0.531
Constant	0.869*	0.041		

Table 13
 Probit of Probability of Living with Others: pooled
 0: living alone 1: living with others
Uruguay: 1981,1995
Urban females N=8,204

Variables	Coefficients	Standard		Derivatives	Means
		Errors			
Education(primary completed)	0.061*	0.023		0.024	0.322
Education(some secondary)	-0.108*	0.053		-0.042	0.088
Education (secondary or preparatory completed)	-0.159*	0.069		-0.063	0.017
Education (some higher education)	-0.163*	0.075		-0.064	0.050
Age (70-74)	0.038*	0.014		0.015	0.268
Age (75-79)	0.079	0.069		0.030	0.185
Age (80+)	0.393*	0.113		0.147	0.220
Covered by social security	0.130	0.093		0.051	0.863
Year dummy:1995	-0.190*	0.015		-0.073	0.589
Constant	0.132	0.128			

Table 14
 Probit of Probability of Living with Others: pooled
 0: living alone 1: living with others
Uruguay: 1981,1995
Urban males N=5,428

Variables	Coefficients	Standard		Derivatives	Means
		Errors			
Education(primary completed)	0.087*	0.008		0.035	0.286
Education(some secondary)	-0.108*	0.0003		-0.043	0.099
Education (secondary or preparatory completed)	-0.042	0.032		-0.017	0.025
Education (some higher education)	-0.081	0.056		-0.032	0.060
Age (70-74)	-0.078*	0.008		-0.031	0.286
Age (75-79)	-0.143	0.130		-0.057	0.181
Age (80+)	-0.039	0.149		-0.016	0.167
Covered by social security	-0.115	0.087		-0.046	0.875
Year dummy:1995	-0.151*	0.001		-0.060	0.570
Constant	0.204	0.122			

Table 15 (Rural)
 Probit of Probability of Living with Others: pooled
 0: living alone 1: living with others

Mexico: 1984,1989

Rural females N=734					Rural females N=734			
Standard					Standard			
Variables	Coefficients	Errors	Derivatives	Means	Coefficients	Errors	Derivatives	Means
Total individual income (in 1990 US dollars)								
Education(primary completed)	-0.341	0.568	-0.107	0.055				
Education(some secondary)	-2.233*	1.041	-0.718	0.003				
Education (secondary or preparatory completed)	-0.32	0.314	-0.101	0.005				
Education (some higher education)								
Age (70-74)	-0.052	0.171	-0.015	0.307	-0.076	0.190	-0.022	0.307
Age (75-79)	-0.254	0.213	-0.076	0.150	-0.245	0.245	-0.074	0.150
Age (80+)	0.287	0.389	0.075	0.239	0.291	0.387	0.077	0.239
Covered by social security	0.271*	0.146	0.070	0.154	0.239*	0.076	0.063	0.154
Year dummy:1989	-0.228*	0.006	-0.063	0.533	-0.200*	0.013	-0.056	0.533
Constant	0.930*	0.154			0.895*	0.198		

Rural females N= 226				
Standard				
Variables	Coefficients	Errors	Derivatives	Means
Total individual income (in 1990 US dollars)	0.152	0.089	0.056	6.011
Education(primary completed)	-0.669	0.772	-0.261	0.049
Education(some secondary)				
Education (secondary or preparatory completed)	-0.514	1.247	-0.201	0.007
Education (some higher education)				
Age (70-74)	0.149	0.328	0.055	0.344
Age (75-79)	-0.806	0.660	-0.312	0.139
Age (80+)				
Covered by social security	0.471*	0.244	0.161	0.151
Year dummy:1989	-0.432*	0.112	-0.158	0.530
Constant	-0.276	0.681		

Table 16 (Rural)				
Probit of Probability of Living with Others: pooled				
Mexico: 1984, 1989				
0: living alone 1: living with others				
Rural females		N=	226	
Standard				
Variables	Coefficients	Errors	Derivatives	Means
Total individual income (in 1990 US dollars)	0.170	0.121	0.063	6.011
Education(primary completed)	-0.654	0.788	-0.255	0.049
Education(some secondary)				
Education (secondary or preparatory completed)	-0.099	1.345	-0.037	0.007
Education (some higher education)				
Age (70-74)	-0.008	0.578	-0.003	0.344
Age (75-79)	-0.873	0.890	-0.337	0.139
Age (80+)	-0.438	0.419	-0.169	0.175
Covered by social security				
Year dummy:1989	-0.450*	0.038	-0.165	0.530
Constant	-0.166	1.078		

Rural females		N=	226	
Standard				
Variables	Coefficients	Errors	Derivatives	Means
Total individual income (in 1990 US dollars)	0.140	0.108	0.052	6.011
Education(primary completed)				
Education(some secondary)				
Education (secondary or preparatory completed)				
Education (some higher education)	-0.049	0.535	-0.018	0.344
Age (70-74)	-0.900	0.867	-0.347	0.139
Age (75-79)	-0.455	0.423	-0.175	0.175
Age (80+)				
Covered by social security				
Year dummy:1989	-0.399*	0.018	-0.146	0.530
Constant	-0.026	1.042		

Table 17 (Rural)					
Probit of Probability of Living with Others: pooled					
0: living alone 1: living with others					
Mexico: 1984, 1989					
Biprobit		Biprobit			
Rural females		Selection			
N=226				N=734	
Standard			Standard		
Variables	Coefficients	Errors	Variables	Coefficients	Errors
Log (Total individual income (in 1990 US dollars))	0.021	0.039	Years of schooling	-0.005	0.020
Education(primary completed)	-0.219	0.222	Mean age of the household	0.020*	0.003
Education(some secondary)			Mean labor market status	0.209	0.130
Education (secondary or preparatory completed)	-0.315	0.471	of the household		
Education (some higher education)			Constant	-1.654*	0.184
Age (70-74)	0.058	0.084			
Age (75-79)	-0.134	0.122			
Age (80+)					
Covered by social security	0.029	0.085			
Year dummy:1989	0.407*	0.080			
Constant	-1.256*	0.247			

Table 18 (Rural)									
Probit of Probability of Living with Others: pooled									
0: living alone 1: living with others									
Mexico: 1984, 1989									
Rural males					Rural males				
N=766					N=766				
Standard					Standard				
Variables	Coefficients	Errors	Derivatives	Means	Coefficients	Errors	Derivatives	Means	
Log(Total individual income (in 1990 US dollars))									
Education(primary completed)	-0.399*	0.193	-0.138	0.036					
Education(some secondary)	0.185	0.167	0.054	0.015					
Education (secondary or preparatory completed)	-0.270	0.450	-0.092	0.003					
Education (some higher education)	-1.303	1.239	-0.484	0.005					
Age (70-74)	-0.205*	0.085	-0.066	0.281	-0.193*	0.064	-0.062	0.281	
Age (75-79)	-0.284*	0.038	-0.094	0.202	-0.255*	0.059	-0.084	0.202	
Age (80+)	0.044	0.054	0.013	0.182	0.081	0.050	0.025	0.182	
Covered by social security	0.225	0.478	0.066	0.165	0.240	0.470	0.071	0.165	
Year dummy:1989	-0.150*	0.042	-0.047	0.546	-0.154*	0.041	-0.048	0.546	
Constant	0.872*	0.071			0.833*	0.060			
Rural males					Rural males				
N=					590				
Standard									
Variables	Coefficients	Errors	Derivatives	Means					
Log(Total individual income (in 1990 US dollars))	0.162	0.171	0.057	6.833					
Education(primary completed)	-0.698	0.477	-0.269	0.037					
Education(some secondary)	0.196	0.475	0.066	0.013					
Education (secondary or preparatory completed)	-0.303	0.526	-0.114	0.004					
Education (some higher education)	-1.328	0.931	-0.488	0.006					
Age (70-74)	-0.223*	0.036	-0.080	0.316					
Age (75-79)	-0.640*	0.204	-0.242	0.165					
Age (80+)	-0.288*	0.012	-0.106	0.135					
Covered by social security	0.189	0.344	0.064	0.168					
Year dummy:1989	-0.127*	0.027	-0.045	0.545					
Constant	-0.323	1.159							

Table 19 (Rural)									
Probit of Probability of Living with Others: pooled									
0: living alone 1: living with others									
Mexico:1984, 1989									
Rural males					Rural males				
N=590					N=590				
Standard					Standard				
Variables	Coefficients	Errors	Derivatives	Means	Coefficients	Errors	Derivatives	Means	
Log(Total individual income (in 1990 US dollars))	0.175	0.192	0.062	6.833					
Education(primary completed)	-0.713	0.484	-0.275	0.037					
Education(some secondary)	0.311	0.690	0.100	0.013					
Education (secondary or preparatory completed)	-0.168	0.277	-0.061	0.004					
Education (some higher education)	-1.356	0.886	-0.496	0.006					
Age (70-74)	-0.219*	0.052	-0.079	0.316					
Age (75-79)	-0.627*	0.174	-0.236	0.165					
Age (80+)	-0.288*	0.019	-0.106	0.135					
Covered by social security									
Year dummy:1989	-0.103*	0.015	-0.036	0.545					
Constant	-0.399	1.282							
Rural males					Rural males				
N=					590				
Standard									
Variables	Coefficients	Errors	Derivatives	Means					
Log(Total individual income (in 1990 US dollars))	0.150	0.165	0.053	6.833					
Education(primary completed)									
Education(some secondary)									
Education (secondary or preparatory completed)									
Education (some higher education)									
Age (70-74)	-0.204*	0.044	-0.073	0.316					
Age (75-79)	-0.591*	0.180	-0.223	0.165					
Age (80+)	-0.232*	0.055	-0.085	0.135					
Covered by social security									
Year dummy:1989	-0.108*	0.013	-0.038	0.545					
Constant	-0.284	1.115							

Table 20 (Rural)					
Probit of Probability of Living with Others: pooled					
0: living alone 1: living with others					
Mexico: 1984, 1989					
Biprobit Rural males N=590			Biprobit Selection		N=766
Variables	Standard		Variables	Standard	
	Coefficients	Errors		Coefficients	Errors
Log(Total individual income (in 1990 US dollars))	0.060	0.037	Years of schooling	0.049*	0.023
Education(primary completed)	0.002	0.222	Mean age of the household	0.031*	0.003
Education(some secondary)	0.325	0.441	Mean labor market status	0.784*	0.191
Education (secondary or preparatory completed)	-0.083	0.667	of the household		
Education (some higher education)	-0.594	0.727	Constant	-1.332*	0.204
Age (70-74)	-0.081	0.080			
Age (75-79)	-0.280*	0.111			
Age (80+)	-0.229	0.123			
Covered by social security	0.094	0.104			
Year dummy:1989	0.452	0.074			
Constant	-0.564	0.262			

Table 21 (Urban)								
Probit of Probability of Living with Others: pooled								
0: living alone 1: living with others								
Mexico: 1984, 1989								
Urban females N=1,239					Urban females N=1,239			
Variables	Standard		Derivatives	Means	Standard			
	Coefficients	Errors			Coefficients	Errors	Derivatives	Means
Log(Total individual income (in 1990 US dollars))								
Education(primary completed)	-0.185	0.157	-0.053	0.182				
Education(some secondary)	-0.545*	0.289	-0.178	0.043				
Education (secondary or preparatory completed)	-0.370*	0.178	-0.115	0.034				
Education (some higher education)	-0.442*	0.047	-0.141	0.013				
Age (70-74)	0.074	0.092	0.020	0.290	0.067	0.094	0.018	0.290
Age (75-79)	-0.130	0.319	-0.037	0.164	-0.114	0.309	-0.032	0.164
Age (80+)	-0.021	0.431	-0.006	0.234	0.005	0.404	0.001	0.234
Covered by social security	0.026	0.122	0.007	0.343	-0.047	0.107	-0.013	0.343
Year dummy:1989	-0.018	0.044	-0.005	0.525	-0.011	0.033	-0.003	0.525
Constant	0.955*	0.039			0.887*	0.006		
Urban females N=450								
Variables	Standard		Derivatives	Means				
	Coefficients	Errors						
Log(Total individual income (in 1990 US dollars))	0.184*	0.064	0.061	6.844				
Education(primary completed)	-0.043	0.216	-0.014	0.233				
Education(some secondary)	-0.355	0.361	-0.128	0.040				
Education (secondary or preparatory completed)	-0.362*	0.162	-0.130	0.055				
Education (some higher education)								
Age (70-74)	0.178	0.204	0.058	0.299				
Age (75-79)	-0.014	0.782	-0.005	0.219				
Age (80+)	-0.388	0.218	-0.138	0.148				
Covered by social security	0.279	0.182	0.091	0.409				
Year dummy:1989	-0.330*	0.044	-0.110	0.454				
Constant	-0.569	0.628						

Table 22 (Urban)				
Probit of Probability of Living with Others: pooled				
0: living alone 1: living with others				
Mexico: 1984, 1989				
Urban females N=450				
Standard				
Variables	Coefficients	Errors	Derivatives	Means
Log(Total individual income (in 1990 US dollars))	0.184*	0.058	0.061	6.844
Education(primary completed)	0.052	0.107	0.017	0.233
Education(some secondary)	-0.256	0.320	-0.091	0.040
Education (secondary or preparatory completed)	-0.280	0.220	-0.100	0.055
Education (some higher education)				
Age (70-74)	0.180	0.215	0.058	0.299
Age (75-79)	-0.075	0.715	-0.025	0.219
Age (80+)	-0.445	0.285	-0.160	0.148
Covered by social security				
Year dummy:1989	-0.322*	0.037	-0.108	0.454
Constant	-0.474	0.523		

Urban females N=450				
Standard				
Variables	Coefficients	Errors	Derivatives	Means
Log(Total individual income (in 1990 US dollars))	0.175*	0.058	0.058	6.844
Education(primary completed)				
Education(some secondary)				
Education (secondary or preparatory completed)				
Education (some higher education)				
Age (70-74)	0.176	0.213	0.057	0.299
Age (75-79)	-0.057	0.720	-0.019	0.219
Age (80+)	-0.439	0.246	-0.158	0.148
Covered by social security				
Year dummy:1989	-0.327*	0.055	-0.110	0.454
Constant	-0.428	0.545		

Table 23 (Urban)					
Probit of Probability of Living with Others: pooled					
0: living alone 1: living with others					
Mexico: 1984-1989					
Biprobit			Biprobit		
Urban females			Selection		
N=450			N=1,239		
Standard			Standard		
Variables	Coefficients	Errors	Variables	Coefficients	Errors
Log(Total individual income (in 1990 US dollars))	0.054*	0.024	Years of schooling	0.038*	0.010
Education(primary completed)	0.120	0.087	Mean age of the household	0.021*	0.002
Education(some secondary)	0.172	0.154	Mean labor market status	0.036	0.108
Education (secondary or preparatory completed)	0.126	0.185	of the household		
Education (some higher education)			Constant	-1.571*	0.137
Age (70-74)	0.020	0.072			
Age (75-79)	0.087	0.061			
Age (80+)	-0.003	0.093			
Covered by social security	0.066	0.059			
Year dummy:1989	0.478*	0.066			
Constant	-1.451*	0.173			

Table 24 (Urban)									
Probit of Probability of Living with Others: pooled									
0: living alone 1: living with others									
Mexico: 1984, 1989									
Urban males					Urban males				
N=955					N=955				
Variables	Coefficients	Standard Errors	Derivatives	Means	Coefficients	Standard Errors	Derivatives	Means	
Log(Total individual income (in 1990 US dollars))									
Education(primary completed)	-0.065	0.460	-0.021	0.166					
Education(some secondary)	-0.536*	0.085	-0.191	0.047					
Education (secondary or preparatory completed)	-0.224	0.455	-0.075	0.027					
Education (some higher education)	-0.618	0.486	-0.223	0.049					
Age (70-74)	-0.046	0.279	-0.015	0.259	-0.004	0.298	-0.001	0.259	
Age (75-79)	-0.302*	0.011	-0.101	0.148	-0.252*	0.011	-0.084	0.148	
Age (80+)	-0.449*	0.000	-0.151	0.232	-0.404*	0.042	-0.136	0.232	
Covered by social security	0.028	0.169	0.009	0.427	-0.059	0.106	-0.019	0.427	
Year dummy:1989	0.089*	0.005	0.028	0.531	0.058*	0.008	0.018	0.531	
Constant	0.869*	0.041			0.813*	0.105			
Urban males					Urban males				
N=744					N=744				
Variables	Coefficients	Standard Errors	Derivatives	Means					
Log(Total individual income (in 1990 US dollars))	-0.119	0.074	-0.042	7.439					
Education(primary completed)	0.073	0.339	0.025	0.165					
Education(some secondary)	-0.336*	0.056	-0.125	0.061					
Education (secondary or preparatory completed)	0.055	0.400	0.019	0.035					
Education (some higher education)	-0.225	0.383	-0.083	0.065					
Age (70-74)	-0.088	0.343	-0.031	0.275					
Age (75-79)	-0.528*	0.057	-0.198	0.142					
Age (80+)	-1.028*	0.116	-0.388	0.166					
Covered by social security	0.181	0.226	0.063	0.473					
Year dummy:1989	0.052*	0.004	0.018	0.519					
Constant	1.571*	0.452							

Table 25 (Urban)					
Probit of Probability of Living with Others: pooled					
0: living alone 1: living with others					
Mexico: 1984, 1989					
Urban males			Urban males		
N=744			N=744		
Variables	Coefficients	Standard Errors	Derivatives	Means	
Log(Total individual income (in 1990 US dollars))	-0.112*	0.055	-0.039	7.439	
Education(primary completed)	0.088	0.342	0.031	0.165	
Education(some secondary)	-0.276*	0.049	-0.102	0.061	
Education (secondary or preparatory completed)	0.100	0.444	0.034	0.035	
Education (some higher education)	-0.175	0.324	-0.064	0.065	
Age (70-74)	-0.068	0.374	-0.024	0.275	
Age (75-79)	-0.517*	0.022	-0.194	0.142	
Age (80+)	-1.029*	0.110	-0.389	0.166	
Covered by social security					
Year dummy:1989	0.064*	0.018	0.023	0.519	
Constant	1.578*	0.387			
Urban males			Urban males		
N=744			N=744		
Variables	Coefficients	Standard Errors	Derivatives	Means	
Log(Total individual income (in 1990 US dollars))	-0.124	0.088	-0.044	7.439	
Education(primary completed)					
Education(some secondary)					
Education (secondary or preparatory completed)					
Education (some higher education)					
Age (70-74)	-0.047	0.390	-0.017	0.275	
Age (75-79)	-0.498*	0.014	-0.187	0.142	
Age (80+)	-0.998*	0.155	-0.377	0.166	
Covered by social security					
Year dummy:1989	0.042*	0.015	0.015	0.519	
Constant	1.653*	0.575			

Table 26 (Urban)					
Probit of Probability of Living with Others: pooled					
0: living alone 1: living with others					
Mexico: 1984,1989					
Biprobit			Biprobit		
Urban males			Selection		
N=744			N=955		
Variables	Coefficients	Standard Errors	Variables	Coefficients	Standard Errors
Log(Total individual income (in 1990 US dollars))	-0.026	0.029	Years of schooling	0.097*	0.014
Education(primary completed)	0.371*	0.103	Mean age of the household	0.023*	0.002
Education(some secondary)	0.117	0.165	Mean labor market status	0.285*	0.136
Education (secondary or preparatory completed)	0.160	0.260	of the household		
Education (some higher education)	0.128	0.188	Constant	-0.865*	0.178
Age (70-74)	-0.104	0.059			
Age (75-79)	-0.182*	0.074			
Age (80+)	-0.419*	0.110			
Covered by social security	0.014	0.060			
Year dummy:1989	0.457*	0.057			
Constant	0.028	0.203			

Table 27
The projection of living arrangements

Mexico: 1984-1989		Rural females				
Variables	Coefficients	Means in 1984	Means in 1989			
Education(primary completed)	-0.341	0.069	0.041	Estimated probabilities of living with others		The explanatory power
Education(some secondary)	-2.233*	0.005	0.002	1984	0.827	of each independent variable
Education (secondary or preparatory completed)	-0.32	0.015	0.002	1989	0.835	for the change in the
Education (some higher education)						estimated probability
Age (70-74)	-0.052	0.31	0.279	Estimated probabilities at the mean values in 1984 except the following:		
Age (75-79)	-0.254	0.153	0.171	Covered by social security	0.834	87.50%
Age (80+)	0.287	0.266	0.22	Age (75-79)	0.826	-12.50%
Covered by social security	0.271*	0.108	0.218	Education(some secondary)	0.829	25%
Year dummy:1995	-0.228*					
Constant	0.930*					
<hr/>						
Mexico : 1984-1989		Rural males				
Variables	Coefficients	Means in 1984	Means in 1989			
Education(primary completed)	-0.399*	0.05	0.32	Estimated probabilities of living with others		
Education(some secondary)	0.185	0.01	0.011	1984	0.774	
Education (secondary or preparatory completed)	-0.270	0	0.005	1989	0.747	
Education (some higher education)	-1.303	0.005	0.004			
Age (70-74)	-0.205*	0.279	0.241	Estimated probabilities at the mean values in 1984 except the following:		
Age (75-79)	-0.284*	0.214	0.216	Covered by social security	0.779	-18.50%
Age (80+)	0.044	0.22	0.194	Age (75-79)	0.774	0%
Covered by social security	0.225	0.134	0.198	Education(primary completed)	0.740	126%
Year dummy:1995	-0.150*			Education(some secondary)	0.773	3.70%
Constant	0.872*					

Table 28

Probit of Probability of Living with Others: pooled

0: living alone 1: living with others

Uruguay

: 1981,1995

Variables	all females N= 7134				all females N= 7134			
	Coefficients	Standard Errors	Derivatives	Means	Coefficients	Standard Errors	Derivatives	Means
Education(primary completed)	0.073*	0.021	0.028	0.312	0.056	0.038	0.021	0.312
Education(some secondary)	-0.031	0.048	-0.012	0.083	-0.060*	0.013	-0.023	0.083
Education (secondary or preparatory completed)	-0.028	0.103	-0.011	0.015	-0.011	0.063	-0.004	0.015
Education (some higher education)	0.027	0.066	0.010	0.053	0.091	0.057	0.034	0.053
Age (70-74)	0.070*	0.007	0.027	0.271	-0.015	0.009	-0.006	0.271
Age (75-79)	0.111*	0.062	0.042	0.196	-0.056	0.066	-0.021	0.196
Age (80+)	0.430*	0.110	0.158	0.240	0.180	0.125	0.068	0.240
Log(Social security income (in 1990 US dollars))	-0.165*	0.005	-0.064	7.126	-0.271*	0.045	-0.104	7.126
Log(Social security income)*single					0.032*	0.003	0.012	0.753
Log(Social security income)*widow					0.038*	0.005	0.015	4.187
Log(Social security income)*married					-0.092*	0.005	-0.035	1.822
Year dummy:1995*single					0.030*	0.003	0.012	0.059
Year dummy:1995*widow					-0.105*	0.010	-0.040	0.343
Year dummy:1995*married					-0.015	0.055	-0.006	0.165
Year dummy:1995	-0.203*	0.010	-0.078	0.601	-0.096*	0.035	-0.037	0.601
constant	1.404*	0.069			2.239*	0.317		

**Note: 2. test

**Note:3. test

Variables	all females N= 7134				all females N= 7134			
	Coefficients	Standard Errors	Derivatives	Means	Coefficients	Standard Errors	Derivatives	Means
Education(primary completed)	0.057	0.037	0.022	0.312	0.070*	0.020	0.027	0.312
Education(some secondary)	-0.057*	0.014	-0.022	0.083	-0.037	0.045	-0.014	0.083
Education (secondary or preparatory completed)	-0.005	0.070	-0.002	0.015	-0.00002	0.087	0.000	0.015
Education (some higher education)	0.090	0.058	0.034	0.053	0.058	0.030	0.022	0.053
Age (70-74)	-0.014	0.009	-0.006	0.271	0.024	0.050	0.009	0.271
Age (75-79)	-0.055	0.067	-0.021	0.196	0.019	0.149	0.007	0.196
Age (80+)	0.178	0.124	0.067	0.240	0.278	0.240	0.104	0.240
Log(Social security income (in 1990 US dollars))	-0.359*	0.038	-0.138	7.126	-0.234*	0.066	-0.090	7.126
Log(Social security income)*single	0.126*	0.005	0.049	0.753				
Log(Social security income)*widow	0.122*	0.002	0.047	4.187				
Log(Social security income)*married	0.092*	0.001	0.035	0.362				
Year dummy:1995*single					0.889	0.065	0.279	0.059
Year dummy:1995*widow					0.642	0.028	0.215	0.034
Year dummy:1995*married					0.791	0.082	0.286	0.343
Year dummy:1995	-0.157*	0.015	-0.060	0.601	-0.753	0.030	-0.277	0.601
constant	2.248*	0.306			1.945	0.554		

Note:1. When the same regression is analyzed by education groups, the coefficients do not change very much. (by 0.02 at the most for social security income)

Note: 2. test

Note: 3. test

*These tests reject the similarity of the coefficients of social security income by marital status.

The statistic is 533.73.

The statistic is 92.35.

Prob > chi2 = 0.0000

Prob > chi2 = 0.0000

Table 29								
Uruguay: 1981,1995								
Probit of Probability of Living with Others: pooled								
0: living alone 1: living with others								
Variables	all females N=7,134				all females N=7,134			
	Coefficients	Standard Errors	Derivatives	Means	Coefficients	Standard Errors	Derivatives	Means
Education(primary completed)					0.057	0.034	0.022	0.312
Education(some secondary)					-0.059*	0.017	-0.023	0.083
Education (secondary or preparatory completed)					-0.016	0.073	-0.006	0.015
Education (some higher education)					0.081	0.056	0.031	0.053
Age (70-74)	0.071*	0.003	0.027	0.271	-0.013*	0.006	-0.005	0.271
Age (75-79)	0.110	0.058	0.042	0.196	-0.054	0.064	-0.021	0.196
Age (80+)	0.429*	0.103	0.158	0.240	0.185	0.123	0.070	0.240
a dummy for married people					-0.854*	0.005	-0.330	0.261
Log(Social security income (in 1990 US dollars))	-0.165*	0.018	-0.064	7.283	-0.258*	0.038	-0.099	7.126
Log(Social security income)*single								
Log(Social security income)*widow								
Log(Social security income)*married								
Log(Total individual income (in 1990 US dollars))								
Year dummy:1995*single								
Year dummy:1995*widow								
Year dummy:1995*married								
Year dummy:1995	-0.203*	0.009	-0.078	0.601	-0.159*	0.014	-0.060	0.601
constant	1.424*	0.161			2.388*	0.299		
Variables	all females N=7,134							
	Coefficients	Standard Errors	Derivatives	Means				
Education(primary completed)								
Education(some secondary)								
Education (secondary or preparatory completed)								
Education (some higher education)								
Age (70-74)	-0.014*	0.004	-0.005	0.271				
Age (75-79)	-0.056	0.062	-0.022	0.196				
Age (80+)	0.185	0.119	0.070	0.240				
a dummy for married people	-0.853*	0.003	-0.329	0.261				
Log(Social security income (in 1990 US dollars))	-0.252*	0.048	-0.097	7.126				
Log(Social security income)*single								
Log(Social security income)*widow								
Log(Social security income)*married								
Log(Total individual income (in 1990 US dollars))								
Year dummy:1995*single								
Year dummy:1995*widow								
Year dummy:1995*married								
Year dummy:1995	-0.159*	0.014	-0.061	0.601				
constant	2.366*	0.377						

Table 30
 Probit of Probability of Living with Others: pooled
 0: living alone 1: living with others
 : 1981,1995

Uruguay

	N= 7404				N= 7404			
	all females		all females		all females		all females	
Variables	Coefficients	Standard Errors	Derivatives	Means	Coefficients	Standard Errors	Derivatives	Means
Education(primary completed)	0.103*	0.008	0.040	0.312				
Education(some secondary)	0.012	0.022	0.005	0.088				
Education (secondary or preparatory completed)	0.035	0.094	0.014	0.016				
Education (some higher education)	0.102	0.057	0.039	0.053				
Age (70-74)	0.064*	0.004	0.024	0.269	0.062*	0.001	0.024	0.269
Age (75-79)	0.116	0.071	0.044	0.193	0.111	0.068	0.042	0.193
Age (80+)	0.430*	0.109	0.159	0.235	0.425*	0.103	0.157	0.235
Dummy variable for married people								
Log(Social security income (in 1990 US dollars))								
Log(Social security income)*single								
Log(Social security income)*widow								
Log(Social security income)*married								
Log(Total individual income (in 1990 US dollars))	-0.221*	0.022	-0.085	7.240	-0.208*	0.031	-0.080	7.240
Year dummy:1995*single								
Year dummy:1995*widow								
Year dummy:1995*married								
Year dummy:1995	-0.182*	0.013	-0.070	0.601	-0.180*	0.012	-0.069	0.601
constant	1.795*	0.197			1.743*	0.257		

	N= 7134				N= 7134			
	all females		all females		all females		all females	
Variables	Coefficients	Standard Errors	Derivatives	Means	Coefficients	Standard Errors	Derivatives	Means
Education(primary completed)					0.098*	0.023	0.037	0.312
Education(some secondary)					0.028	0.035	0.011	0.083
Education (secondary or preparatory completed)					0.066	0.083	0.025	0.015
Education (some higher education)					0.100*	0.045	0.038	0.053
Age (70-74)	0.064*	0.011	0.025	0.271	0.067*	0.015	0.025	0.271
Age (75-79)	0.095	0.066	0.036	0.196	0.102	0.069	0.039	0.196
Age (80+)	0.421*	0.104	0.155	0.240	0.429*	0.109	0.158	0.240
Dummy variable for married people								
Log(Social security income (in 1990 US dollars))								
Log(Social security income)*single								
Log(Social security income)*widow								
Log(Social security income)*married								
Log(Total individual income (in 1990 US dollars))	-0.307*	0.033	-0.118	7.236	-0.320*	0.026	-0.123	7.236
Year dummy:1995*single								
Year dummy:1995*widow								
Year dummy:1995*married								
Year dummy:1995	-0.182*	0.012	-0.070	0.601	-0.185*	0.013	-0.071	0.601
constant	1.721*	0.249			1.789*	0.189		

Table 31										
Probit of Probability of Living with Others: pooled										
0: living alone 1: living with others										
Uruguay										
: 1981,1995										
females: single					N=	females: single				N=
					736					736
Variables	Coefficients	Standard		Means		Coefficients	Standard		Means	
		Errors	Derivatives				Errors	Derivatives		
Education(primary completed)	-0.051	0.034	-0.017	0.307						
Education(some secondary)	-0.222*	0.061	-0.079	0.099						
Education (secondary or preparatory completed)	-0.094	0.241	-0.033	0.022						
Education (some higher education)	0.327	0.300	0.102	0.087						
Age (70-74)	0.251*	0.018	0.082	0.254	0.230*	0.005	0.076	0.254		
Age (75-79)	-0.011	0.195	-0.004	0.185	-0.037	0.180	-0.013	0.185		
Age (80+)	0.311	0.177	0.101	0.261	0.299	0.174	0.097	0.261		
Log(Social security income (in 1990 US dollars))	-0.354*	0.046	-0.120	7.115	-0.303*	0.096	-0.103	7.115		
Log(Total individual income (in 1990 US dollars))										
Year dummy:1995	-0.056	0.015	-0.019	0.555	-0.075*	0.032	-0.025	0.555		
constant	2.988*	0.409			2.637*	0.752				
females: single					N=	females: single				N=
					780					780
Variables	Coefficients	Standard		Means		Coefficients	Standard		Means	
		Errors	Derivatives				Errors	Derivatives		
Education(primary completed)	0.025*	0.011	0.008	0.309						
Education(some secondary)	-0.069	0.120	-0.023	0.105						
Education (secondary or preparatory completed)	0.064	0.229	0.021	0.021						
Education (some higher education)	0.548*	0.218	0.156	0.086						
Age (70-74)	0.296*	0.089	0.095	0.255	0.264*	0.084	0.085	0.255		
Age (75-79)	-0.069	0.231	-0.023	0.182	-0.114	0.228	-0.039	0.182		
Age (80+)	0.313	0.247	0.100	0.255	0.284	0.260	0.092	0.255		
Log(Social security income (in 1990 US dollars))										
Log(Total individual income (in 1990 US dollars))	-0.462*	0.067	-0.155	7.245	-0.368*	0.085	-0.124	7.245		
Year dummy:1995	0.014	0.024	0.005	0.552	-0.002	0.040	-0.001	0.552		
constant	3.733*	0.605			3.131*	0.728				

Table 32										
Probit of Probability of Living with Others: pooled										
0: living alone 1: living with others										
Uruguay										
: 1981,1995										
females: divorced					N=	females: divorced				N=
					376					376
Variables	Coefficients	Standard		Means		Coefficients	Standard		Means	
		Errors	Derivatives				Errors	Derivatives		
Education(primary completed)	0.271*	0.119	0.102	0.292						
Education(some secondary)	-0.163	0.509	-0.063	0.116						
Education (secondary or preparatory completed)	-0.027	0.046	-0.011	0.030						
Education (some higher education)	0.008	0.017	0.003	0.067						
Age (70-74)	0.098*	0.001	0.037	0.303	0.089*	0.016	0.034	0.303		
Age (75-79)	0.117	0.085	0.044	0.198	0.121	0.064	0.046	0.198		
Age (80+)	0.176	0.271	0.066	0.128	0.202	0.207	0.076	0.128		
Log(Social security income (in 1990 US dollars))	-0.337*	0.128	-0.129	7.113	-0.343*	0.097	-0.132	7.113		
Log(Total individual income (in 1990 US dollars))										
Year dummy:1995	-0.097*	0.011	-0.037	0.668	-0.070*	0.004	-0.027	0.668		
constant	2.601*	0.868			2.688*	0.669				
females: divorced					N=	females: divorced				N=
					423					423
Variables	Coefficients	Standard		Means		Coefficients	Standard		Means	
		Errors	Derivatives				Errors	Derivatives		
Education(primary completed)	0.342*	0.062	0.128	0.290						
Education(some secondary)	0.065	0.481	0.025	0.139						
Education (secondary or preparatory completed)	0.217*	0.023	0.081	0.034						
Education (some higher education)	0.066	0.059	0.025	0.068						
Age (70-74)	-0.0004	0.015	-0.0002	0.292	-0.006	0.032	-0.002	0.292		
Age (75-79)	0.059	0.158	0.023	0.189	0.076	0.163	0.029	0.189		
Age (80+)	0.080	0.167	0.030	0.116	0.083	0.085	0.032	0.116		
Log(Social security income (in 1990 US dollars))										
Log(Total individual income (in 1990 US dollars))	-0.434*	0.172	-0.167	7.306	-0.423*	0.115	-0.163	7.306		
Year dummy:1995	0.002	0.009	0.001	0.678	0.049*	0.022	0.019	0.678		
constant	3.300*	1.215			3.301*	0.860				

Table 33									
Probit of Probability of Living with Others: pooled									
0: living alone 1: living with others									
Uruguay									
: 1981,1995									
females: widow					females: widow				
N= 4124					N= 4124				
Variables	Coefficients	Standard		Means	Coefficients	Standard		Derivatives	Means
		Errors	Derivatives			Errors	Derivatives		
Education(primary completed)	0.127*	0.017	0.044	0.321					
Education(some secondary)	0.080*	0.034	0.028	0.080					
Education (secondary or preparatory completed)	0.065	0.195	0.022	0.012					
Education (some higher education)	0.032	0.024	0.011	0.045					
Age (70-74)	0.040	0.033	0.014	0.255	0.038	0.038	0.013	0.255	
Age (75-79)	0.030*	0.014	0.010	0.218	0.024	0.016	0.008	0.218	
Age (80+)	0.288*	0.090	0.098	0.312	0.280*	0.083	0.095	0.312	
Log(Social security income (in 1990 US dollars))	-0.276*	0.028	-0.097	7.189	-0.268*	0.032	-0.094	7.189	
Log(Total individual income (in 1990 US dollars))									
Year dummy:1995	-0.210*	0.017	-0.072	0.589	-0.205*	0.015	-0.071	0.589	
constant	2.467*	0.210			2.457*	0.239			
females: widow					females: widow				
N= 4196					N= 4196				
Variables	Coefficients	Standard		Means	Coefficients	Standard		Derivatives	Means
		Errors	Derivatives			Errors	Derivatives		
Education(primary completed)	0.194*	0.027	0.066	0.322					
Education(some secondary)	0.236*	0.012	0.077	0.081					
Education (secondary or preparatory completed)	0.259*	0.131	0.084	0.012					
Education (some higher education)	0.218*	0.082	0.072	0.045					
Age (70-74)	0.042	0.029	0.015	0.254	0.036	0.037	0.013	0.254	
Age (75-79)	0.029	0.037	0.010	0.218	0.016	0.038	0.006	0.218	
Age (80+)	0.266	0.093	0.090	0.310	0.249*	0.086	0.084	0.310	
Log(Social security income (in 1990 US dollars))			-0.154	7.329					
Log(Total individual income (in 1990 US dollars))	-0.442*	0.098			-0.396*	0.083	-0.138	7.329	
Year dummy:1995	-0.159*	0.032	-0.055	0.586	-0.154*	0.029	-0.053	0.586	
constant	3.663*	0.721			3.418*	0.624			

Table 34
The projection of living arrangements

Uruguay		: 1981-1995		Females: single			
Variables	Coefficients	Means in 1981	Means in 1995				
Education(primary completed)	-0.051	0.337	0.292	Estimated probabilities of living with others			
Education(some secondary)	-0.222*	0.073	0.126	1981	0.736		The explanatory power
Education (secondary or preparatory completed)	-0.094	0.004	0.036	1995	0.716		of each independent variable
Education (some higher education)	0.327	0.081	0.086				for the change in the
Age (70-74)	0.251*	0.252	0.258	Estimated probabilities at the mean values in 1984 except the following:			estimated probability
Age (75-79)	-0.011	0.175	0.191	Social security income (in 1990 US dollars)	0.716		100%
Age (80+)	0.311	0.240	0.265	Age (75-79)	0.736		0%
Log(Social security income (in 1990 US dollars))	-0.354*	7.022	7.188	Education(some secondary)	0.732		20%
Log(Total individual income (in 1990 US dollars))				Education (secondary or preparatory completed)	0.735		5%
Year dummy:1995	-0.056			Doubled social security income	0.633		
constant	2.988*			\$1000 more social security income	0.648		
				\$500 more social security income	0.680		

Uruguay		: 1981-1995		Females: divorced			
Variables	Coefficients	Means in 1981	Means in 1995				
Education(primary completed)	0.271*	0.245	0.326	Estimated probabilities of living with others			
Education(some secondary)	-0.163	0.085	0.169	1981	0.641		
Education (secondary or preparatory completed)	-0.027	0.021	0.040	1995	0.625		
Education (some higher education)	0.008	0.041	0.050				
Age (70-74)	0.098*	0.300	0.280	Estimated probabilities at the mean values in 1984 except the following:			
Age (75-79)	0.117	0.234	0.163	Social security income (in 1990 US dollars)	0.622		119%
Age (80+)	0.176	0.085	0.131	Age (75-79)	0.638		19%
Log(Social security income (in 1990 US dollars))	-0.337*	7.012	7.161	Education(some secondary)	0.636		31%
Log(Total individual income (in 1990 US dollars))				Education (secondary or preparatory completed)	0.641		0%
Year dummy:1995	-0.097*			Doubled social security income	0.553		
constant	2.601*			\$1000 more social security income	0.559		
				\$500 more social security income	0.595		

Uruguay		: 1981-1995		Females: widow			
Variables	Coefficients	Means in 1981	Means in 1995				
Education(primary completed)	0.127*	0.318	0.329	Estimated probabilities of living with others			
Education(some secondary)	0.080*	0.066	0.09	1981	0.746		
Education (secondary or preparatory completed)	0.065	0.007	0.016	1995	0.733		
Education (some higher education)	0.032	0.032	0.083		0.013		
Age (70-74)	0.040	0.274	0.241	Estimated probabilities at the mean values in 1984 except the following:			
Age (75-79)	0.030*	0.219	0.213	Social security income (in 1990 US dollars)	0.725		162%
Age (80+)	0.288*	0.267	0.342	Age (75-79)	0.746		0%
Log(Social security income (in 1990 US dollars))	-0.276*	7.050	7.285	Education(some secondary)	0.747		-0.08%
Log(Total individual income (in 1990 US dollars))				Education (secondary or preparatory completed)	0.746		0%
Year dummy:1995	-0.210*			Doubled social security income	0.661		
constant	2.467*			\$1000 more social security income	0.677		
				\$500 more social security income	0.700		

Table A.1: The ratio of social security income to total income: Uruguay 1981

total				females				males			
age group	Ratio	std.dev.	obs.	age group	Ratio	std.dev.	obs.	age group	Ratio	std.dev.	obs.
65-69	0.92	0.21	1031	65-69	0.95	0.17	583	65-69	0.88	0.25	448
70-74	0.93	0.19	962	70-74	0.95	0.17	532	70-74	0.91	0.21	430
75-79	0.95	0.17	647	75-79	0.96	0.15	371	75-79	0.93	0.19	276
80-	0.96	0.15	632	80-	0.97	0.13	403	80-	0.94	0.18	229
Total	0.94	0.19	3272	Total	0.95	0.16	1889	Total	0.91	0.22	1383
				females: single				females: married			
age group	Ratio	std.dev.	obs.	age group	Ratio	std.dev.	obs.	age group	Ratio	std.dev.	obs.
65-69	0.91	0.22	75	65-69	0.98	0.09	211	65-69	0.98	0.09	211
70-74	0.94	0.18	56	70-74	1.00	0.03	140	70-74	1.00	0.03	140
75-79	0.95	0.18	38	75-79	0.99	0.04	63	75-79	0.99	0.04	63
80-	0.98	0.11	54	80-	1.00	0.00	37	80-	1.00	0.00	37
Total	0.94	0.18	223	Total	0.99	0.07	451	Total	0.99	0.07	451
				females: divorced				females: widow			
age group	Ratio	std.dev.	obs.	age group	Ratio	std.dev.	obs.	age group	Ratio	std.dev.	obs.
65-69	0.98	0.08	28	65-69	0.93	0.20	268	65-69	0.93	0.20	268
70-74	0.98	0.08	25	70-74	0.93	0.21	311	70-74	0.93	0.21	311
75-79	0.96	0.13	19	75-79	0.95	0.16	251	75-79	0.95	0.16	251
80-	1.00	0.00	8	80-	0.96	0.15	304	80-	0.96	0.15	304
Total	0.98	0.09	80	Total	0.94	0.18	1134	Total	0.94	0.18	1134

Note: 1. 1 person did not report her marital status in 1981. Her reported social security income is \$1102.48.

Table A.2: The ratio of social security income to total income: Uruguay 1995

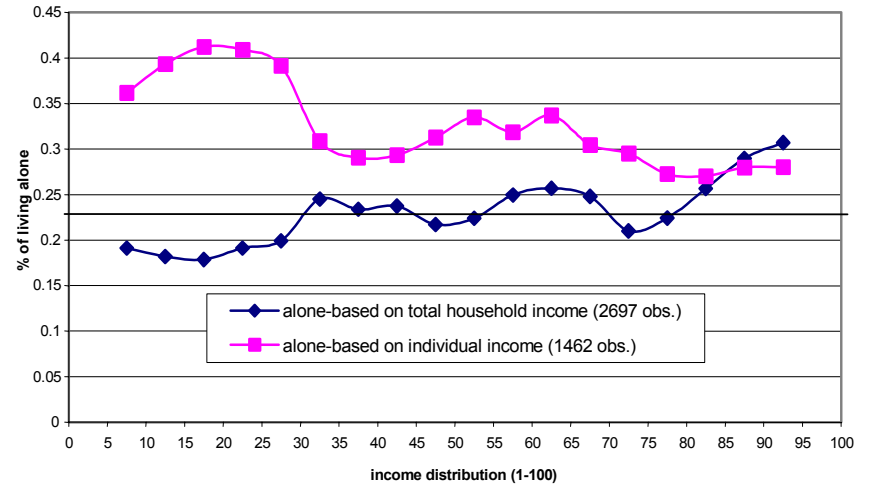
total				females				males			
age group	Ratio	std.dev.	obs.	age group	Ratio	std.dev.	obs.	age group	Ratio	std.dev.	obs.
65-69	0.88	0.23	2549	65-69	0.90	0.22	1481	65-69	0.85	0.23	1068
70-74	0.91	0.20	2333	70-74	0.92	0.19	1384	70-74	0.89	0.21	949
75-79	0.93	0.17	1690	75-79	0.94	0.16	1026	75-79	0.92	0.17	664
80-	0.92	0.19	2034	80-	0.92	0.19	1354	80-	0.92	0.19	680
Total	0.91	0.20	8606	Total	0.92	0.19	5245	Total	0.89	0.21	3361
				females: single				females: married			
age group	Ratio	std.dev.	obs.	age group	Ratio	std.dev.	obs.	age group	Ratio	std.dev.	obs.
65-69	0.89	0.23	139	65-69	0.96	0.15	633	65-69	0.96	0.15	633
70-74	0.92	0.19	132	70-74	0.98	0.09	441	70-74	0.98	0.09	441
75-79	0.94	0.18	101	75-79	0.99	0.05	228	75-79	0.99	0.05	228
80-	0.96	0.13	141	80-	0.99	0.04	144	80-	0.99	0.04	144
Total	0.93	0.19	513	Total	0.97	0.12	1446	Total	0.97	0.12	1446
				females: divorced				females: widow			
age group	Ratio	std.dev.	obs.	age group	Ratio	std.dev.	obs.	age group	Ratio	std.dev.	obs.
65-69	0.80	0.27	113	65-69	0.86	0.25	596	65-69	0.86	0.25	596
70-74	0.85	0.27	88	70-74	0.90	0.21	723	70-74	0.90	0.21	723
75-79	0.90	0.23	53	75-79	0.92	0.17	644	75-79	0.92	0.17	644
80-	0.93	0.13	42	80-	0.91	0.21	1027	80-	0.91	0.21	1027
Total	0.85	0.25	296	Total	0.90	0.21	2990	Total	0.90	0.21	2990

Table A.3: Percentage of elderly living alone: Latin America														
country	Argentina	Bolivia	Brazil	Chile	Colombia	Costa Rica	Ecuador	Guatemala	Honduras	Mexico	Nicaragua	Panama	Peru	Paraguay
year	1996	1997	1997	1998	1998	1998	1998	1998	1998	1996	1998	1999	1996	1998
total	0.51	0.41	0.33	0.30	0.19	0.32	0.24	0.21	0.15	0.26	0.12	0.27	0.24	0.18
females	0.48	0.39	0.31	0.29	0.17	0.28	0.23	0.17	0.13	0.24	0.10	0.22	0.23	0.17
males	0.54	0.42	0.36	0.33	0.22	0.35	0.25	0.24	0.16	0.28	0.14	0.33	0.26	0.19
rural		0.51	0.33	0.27	0.25	0.31	0.25	0.19	0.15	0.27	0.12	0.32	0.33	0.18
urban		0.31	0.33	0.31	0.15	0.32	0.23	0.22	0.14	0.25	0.12	0.25	0.19	0.19
Table A.4: Probit of probability of living with others: 0: living alone 1: living with others														
country	Argentina	Bolivia	Brazil	Chile	Colombia	Costa Rica	Ecuador	Guatemala	Honduras	Mexico	Nicaragua	Panama	Peru	Paraguay
year	1996	1997	1997	1998	1998	1998	1998	1998	1998	1996	1998	1999	1996	1998
missing income (%)	19.62	42.33	11.48	12.91	44.58	28.38	44.25	25.53	41.73	42.31	73.9	27.49	28.05	37.39
coefficients of total individual income	-0.086*	0.010	-0.063*	-0.121*	0.058*	-0.061	0.058	0.046	0.006	0.056*	0.013	0.026	0.005	-0.016
standard errors	0.024	0.036	0.014	0.014	0.022	0.038	0.032	0.034	0.039	0.028	0.103	0.032	0.025	0.058
Obs. in probit	6889	1200	17161	13159	4105	1833	799	1470	824	1723	251	2024	2751	704
<p>Note: 1. Persons above 65 with non-missing income are considered for the probit analysis.</p> <p>Note: 2. Gender, region, education dummies (primary completed, some secondary, secondary completed, and some higher education), age group dummies (70-74, 75-79, 80+), and log (total individual income) are included as explanatory variables.</p> <p>Note: 3. In the Venezuelan survey, urban areas are not distinguishable from rural areas. Argentina and Uruguay are urban only.</p> <p>Note: 4. In the survey of Nicaragua, income from all jobs is utilized instead of income from all sources.</p>														

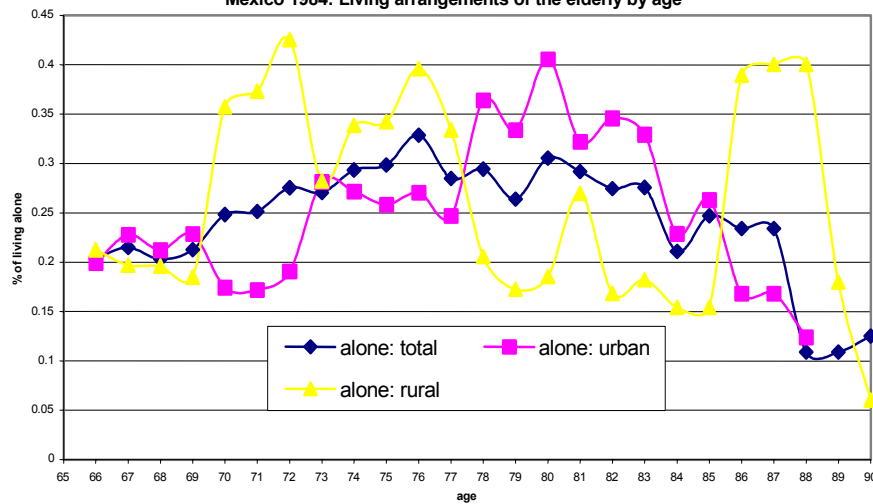
Graph 1
Mexico 1984: Percentage of the elderly living alone by income distribution



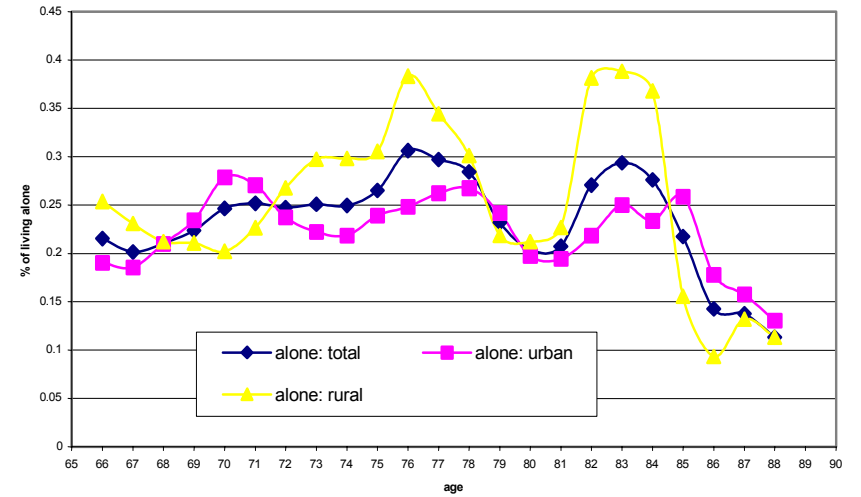
Graph 2
Mexico 1989: Percentage of the elderly living alone by income distribution



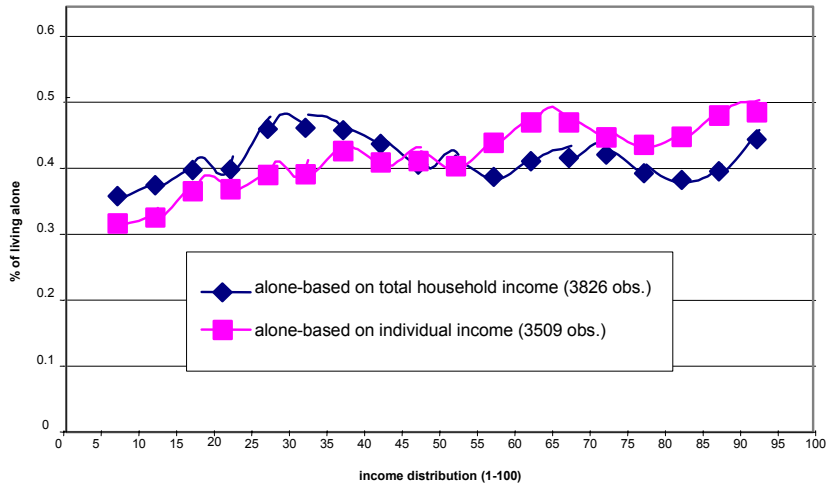
Graph 3
Mexico 1984: Living arrangements of the elderly by age



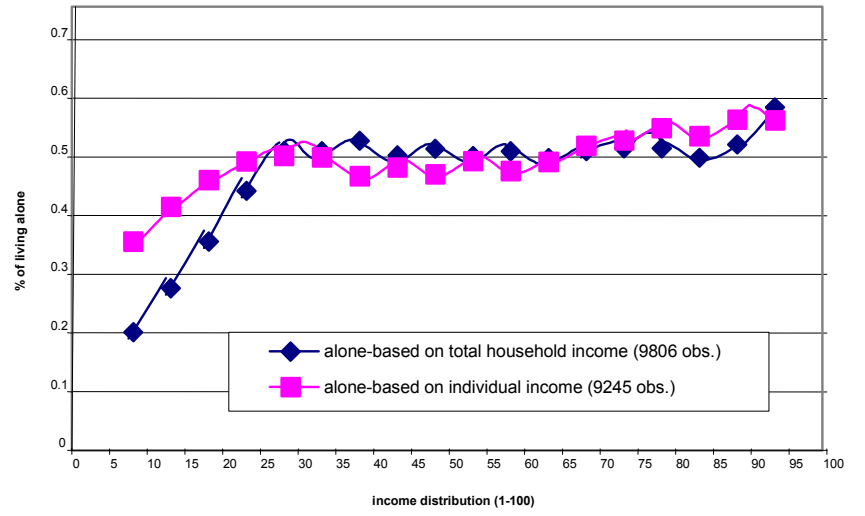
Graph 4
Mexico 1989: Living arrangements of the elderly by age



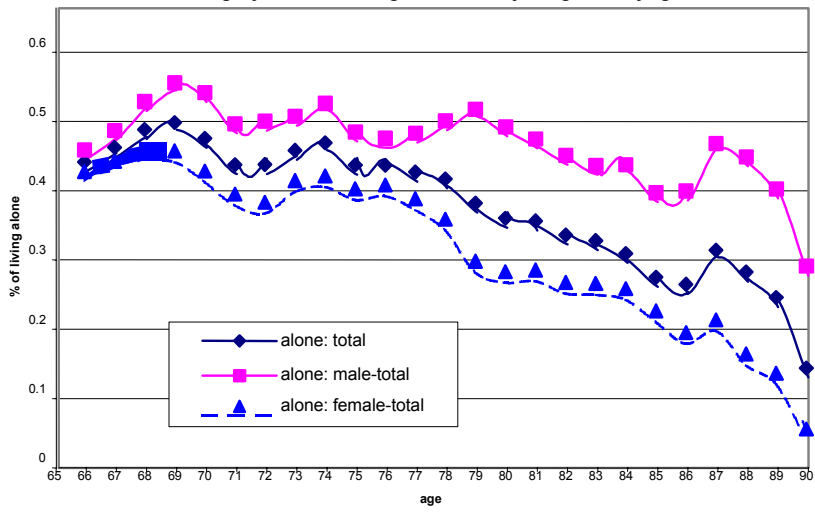
Graph 5
Uruguay 1981: Percentage of the elderly living alone by income distribution



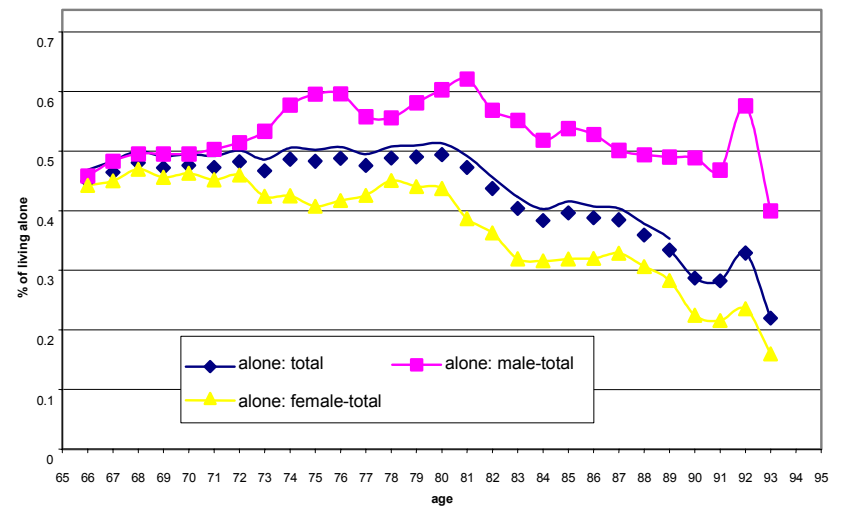
Graph 6
Uruguay 1995: Percentage of the elderly living alone by income distribution



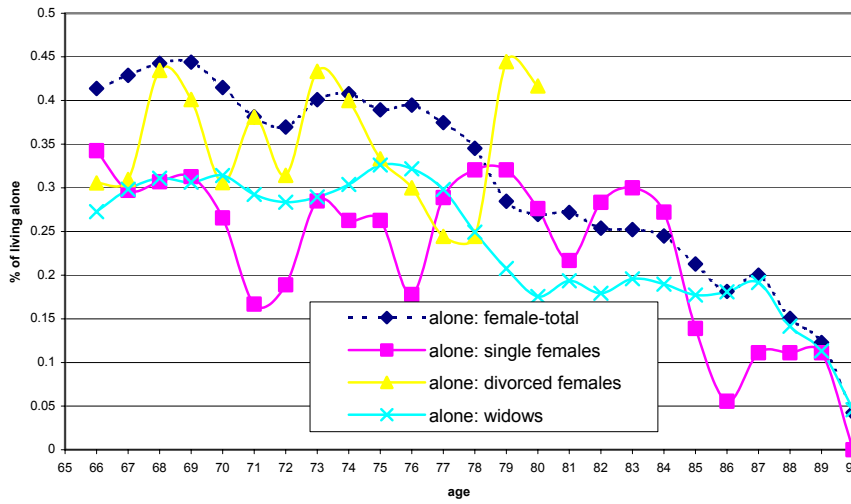
Graph 7
Uruguay 1981: Percentage of the elderly living alone by age



Graph 8
Uruguay 1995: Percentage of the elderly living alone by age



Graph 9
Uruguay 1981: Living arrangements of elderly females by marital status



Graph 10
Uruguay 1995: Living arrangements of elderly females by marital status

