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Elders Left Behind: Migration and Household Structures in Mexico

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INTRODUCTION

In the last decades, sociological and demographic research has increasingly focused on the determinants and consequences of population aging, in particular those associated with the changing age structure that a growing proportion of elderly entails. Along with this more complex demographic structure, particular demands and necessities have arisen and their consequences have been discussed from several perspectives, including the family.

In a number of ways, this discussion resembles worries developed in the 1940s and 1950s about the family losing its functions due to industrialization, although now demographic forces represent the major context of change. In rather simple terms and as a result of very low fertility and increased survivorship due to a maintained low mortality, "the decline in family size during the demographic transition has reduced the stock of sons and daughters who might assist the frail elderly, while improved survival to advanced ages has increased the numbers becoming dependent on others for the needs of daily living"(Rowland 1984).

In contrast, these changes have been barely discussed in contexts of migration (see Kanaiapuni 1999) and very little is known about how spatial mobility influences family structure and composition and how, in turn, systems of support and assistance across and within generations are altered.

Previous research indicates that migration may bring both disadvantages and advantages to elderly parents. On the one hand, it may reduce kin availability as adult children migrate to urban areas or abroad, and could hinder informal support as migrants settle down in distant localities. On the other hand, migration might finance old age as migrants' economic resources increase and enable them to send remittances

home, increasing the odds of solitary living among parents in origin communities. Literature suggests some trade-off between traditional forms of coresidency and reception of remittances, but the effect of informal transfers—and remittances in particular—on elderly living arrangements has been hardly explored.

This paper's aim is to fill in some gaps in the way social demography has traditionally approached determinants of living arrangements in old age by explicitly considering the effects of remittances on coresidency decisions.

First I review the general demographic and economic conditions in Mexico that make this analysis relevant: a declining fertility and mortality with increasing international migration rates, and a stagnant economy with growing poverty and income inequality. The literature review and theoretical approaches are in the next section, which is organized around the main factors associated with living arrangements, and the particular hypotheses that will be tested here. The description of the data set, the operationalization of the dependent and independent variables, and the statistical model used are in the following section. Finally I present the main findings derived from the statistical analysis, and some concluding comments.

Demographic and Social Context

During the last fifty years, Mexico has undergone profound demographic and social changes. At a macro-level, mortality and fertility levels have decreased dramatically. However, the long period of high and sustained population growth contributed to a population in rapid expansion and created a demographic inertia, whose main outcome has been a young age structure.

These same phenomena lie beneath population aging, a process where micro and macro-level aspects converge: individuals living on average more years because of increased survivorship rates and an increased proportion of people reaching older ages due to declining fertility (Chackiel 2000).

In 1995, 7.4 percent of Latin America population was 60 years and over. With estimated annual growth rates of 4 percent during the period 2010-2025, this age group will represent between 20 and 33 percent of the total population by 2050 (United Nations 2001). Due to survivorship differentials among genders and because of the urbanization process, higher proportions of people 60 years and over are likely to be women and concentrate in urban areas (Guzmán and Hakkert 2002). The aged population is also expected to increase very rapidly in Mexico in the following decades. Partida (2001) has estimated that the number of elders will reach 32.4 million by 2050, increasing their share from roughly 5 to 25 percent of the total population.

The increasing proportion of elders —and the corresponding reduction in the proportion of young people— will change dependency ratios (the relationship between the number of people who supply support to elders and elders requiring such support). After an extended period where more than 10 persons aged 15-64 supported each elder, recent projections show that by mid-century less than three 3 persons aged 15-64 will provide assistance to each elder (Aparicio 2002). In addition to fewer sources of support, elders appear also to be the most vulnerable age group according to a social development index developed by the Mexican Population Council, which also shows important regional and gender differentials.[1] While 43 percent of all municipalities in

[1] This composite index includes **education** (proportion of elders with primary complete), **health** (proportion of elders who seek assistance in health centers when they are sick

Mexico are classified as having a low or very low social development index among male elders, the corresponding figure for female elders is 93 percent.

The geographic distribution of elders follows closely the national pattern, with the elderly being highly concentrated in densely inhabited areas, though it also shows a rather heterogeneous distribution within regions and states, primarily as a result of differential fertility and migration behaviors (Negrete 2001). These patterns suggest that the population is aging at a faster pace in rural areas, perhaps owing to an increasing presence of elderly return migrants from cities and urban areas to their places of origin. In addition, rural areas show a higher risk of poverty as individuals age, though in urban areas elders and middle-aged adults are also the groups with the highest prevalence of poverty (Zúñiga and Gomes 2002).

To some extent, the high incidence of poverty among older adults is associated with their limited sources of earnings. Among male adults, self-employment is the largest source of economic resources after age 55, followed by wages, pensions and remittances. Among women, self-employment, remittances and subsidies are the main sources of income, while pensions and wages are rare. Zúñiga and Gomes (2002) suggest that the relative composition of sources of income is strongly linked to impoverishment in Mexico, where high proportions of self-employment —traditionally an activity where income is lower than in waged jobs— are characteristic of old age and deprived groups.

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and elders with no disabilities), **employment quality** (proportion of elders who work between 35 and 45 hours per week), **social protection** (proportion of elders who receive formal or informal economic support, like pensions, government assistance, and remittances), and **quality of life** (proportion of elders living in households with a median income per capita above the national level).

In 2000, 80 percent of employed elderly worked in the informal economy.[2] Pension coverage among elders remains relatively low (20.3%)[3] and less than half of the elders have access to social security (48.95%). One in four elders has no source of income, while salaries for 68.5 percent of those who actually worked are below the poverty line (http://www.conapo.gob.mx/).

At a macro-level, economic conditions in Mexico have also worsened due to recurrent crises and ensuing adjustment programs carried out by the government during the 1980s and mid-1990s. At a micro-level, these structural factors have affected individual and household well-being and have increased poverty rates. In 2000, 53 percent of the country's population lived on less than $2 per day, and around 24 percent lived on less than $1 per day, with the poorest tenth earning only 1.1 percent of total national income (World Bank 2004).

The elderly are in a particularly vulnerable position due to their restricted access to pensions, health services and other kinds of formal support that formal employment entitles. This situation has raised a strong concern in the role that the family plays in providing support and assistance to the elderly, especially in settings where capital markets, private savings, property rights, social security schemes, private pension plans and health insurance are lacking or insufficient (Palloni 2001).

Although several determinants have been examined, research has focused on the role of kin availability and family structure in elders' well-being through their direct and indirect effects on informal support networks and coresidence patterns. For instance,

[2] Occupation rate for this age group is 29.1 percent.

[3] Wong and Parker (quoted in Gomes and Montes de Oca 2002) estimated pension coverage of 27% for women and 31% for men in 1996.

low fertility limits kin availability for providing care and support to the old, which may adversely affect the health status and general life conditions of the elderly.

The family is the main source of informal support for most elders in Mexico, and some scholars suggest that receiving support from the family increases under circumstances of economic insecurity or lack of social protection (Aparicio 2002, Solís 2001). According to a recent survey on social discomfort, elders "trust" in the family as a source of support and, at critical moments, perceive the family as the main or only institution that can provide assistance (Aparicio 2002).

Census and survey data show that nuclear households are the most common living arrangement when at least one of the members is 60 years or more, followed by extended households (Fonte 1999, Gomes 1997). Solitary living has ranged from 6.8 percent in 1976 to 6.4 percent in 1997, although the pattern is unclear (Fonte 1999, Solís 2001). Living alone is far more common among women, unmarried elders, and the oldest elders, although among unmarried and ever married elders, more men than women live alone. In 1994, 24.0% of the never married and 22.6% of the widowers aged 60 or over lived by themselves, while only 16.8 and 15.9% of elderly women were in the same situation (Solís 2001).

Among ever married women with children, 17.5 percent live alone, denoting a certain unwillingness or inability of adult children to provide residence to an old parent, maybe due to migration or financial constraints (De Vos 2000). Although the impact of migration, particularly international migration, on household composition has not been fully addressed, some authors claim that the magnitude and demographic profile of the migrant population will certainly have an effect on living arrangements and patterns of

informal support, and therefore, on the elders' well-being (Kanaiaupuni, 1999; De Vos *et al*., 2001; Gomes and Montes de Oca 2002).

Theoretical Framework

Patterns of intergenerational relations and their impact on collective and individual well-being have been a central topic under population aging conditions. Cherlin (1983) suggests that family ties provide the primary means by which older people are integrated into public life, especially when the decline of other roles for the elderly — loss of prestige and authority, and earlier retirement from the labor force— translate into fewer opportunities to maintain their links to society. For other scholars, the inclusion of older family members in family life represents a continuing source of "socialization, care giving, and financial support for younger generations" (Cohler and Altergott 1995: 61).

Family ties, inclusion in family life, and provision of support and assistance across and within generations are based on two main mechanisms: coresidency —by sharing a place to live, having a common household economy, providing care and emotional support— and informal transfers of money, goods, and services from non-coresident relatives, in particular adult children (Palloni 2001, Bongaarts and Zimmer 2001, Cohler and Altergott 1995, De Vos, Solís et al. 2001). Both mechanisms imply that besides the nuclear family unit, extended kinship systems and social networks are at the core of support systems and socially shared resources between children and their aged parents, and that families provide multiple forms of support and assistance through everyday interaction (Gomes and Montes de Oca 2002).

Coresidency and living arrangements

Coresidency is usually regarded as a major form of intergenerational exchange (Hogan, Eggebeen et al. 1993), although relatives who usually coreside with the elders are only a small fraction of kin available for financial and physical support (Hermalin 2000, De Vos and Holden 1988). Even though family support can be given without living together, coresidency is viewed as "a form of insurance against future need" even under circumstances of good health and economic independence of the elderly (Martin 1989: 627).

Coresidency among generations has been largely studied in developed and developing countries by focusing on living arrangements and their determinants. Independent living and parent-adult child coresidence are by far the most examined types of living arrangements among the elderly (Kramarow 1995, Macunovich, Easterlin et al. 1995, Da Vanzo and Chan 1994, Aquilino 1990, Wolf and Soldo 1988), and in family-oriented societies the increasing trend of elders living alone has been a topic largely studied (Logan, Bian et al. 1998, Kim and Rhee 1997, Martin 1989).

Living arrangements have been conceptualized (a) as a particular kind of social transfer that allows the kin group to allocate resources to the elderly; (b) as an intermediate variable between social structural factors and various dimensions of health and well-being, poverty and disability (Hermalin 2000); and (c) as composite goods that can be individually chosen according to privacy, companionship, domestic services, and associated economies of scale (Palloni 2001).

Although coresidence may be an imperfect proxy for estimating the actual sharing of resources within households (see De Vos and Holden 1988), it represents a relevant unit of analysis for studying intrafamilial support given to and provided by the elderly. In conceptual terms, a shared physical space is highly related to sharing living

expenses and having a common household economy, and households function as small workshops that produce most services individuals receive during their life course (Durán 1988). Focusing on coresidential units is also relevant from a methodological point of view, given the suitability and well-developed standard procedures to construct household structure typologies from extensively available data.

Besides these practical reasons, living arrangements represent a rather common way to compare cultural and socioeconomic differences in the aging experience, and its effects on the position the elderly occupy in the family (De Vos 2004). De Vos and Holden (1988) identify four indicators of the aging experience coming from household typologies: headship rate, relationship of others to the head of the household, coresidence of parents and children, and family household type. The strengths and weaknesses of these indicators have been extensively discussed (see De Vos 2004, Zimmer 2003, De Vos and Holden 1988), and literature shows a strong preference for household schemes that do not hinge on headship but rather emphasize coresidence of elders with a married or unmarried child, as in the scheme developed by Shanas and collaborators.

Despite the wide array of household typologies found in sociological and gerontological literature—whose purpose is to reflect the complexity and diversity that characterize household composition and family relations during this stage of the life course (Hagestad 1988, Brubaker 1983) —a reduced number of substantive types is commonly preferred since interpreting multiple contrasts can be difficult. Three basic patterns are usually distinguished: elders living alone —or with a spouse only—, elders living with an adult child, and elders living in extended households, *i.e.* with other relatives or unrelated persons.

Following what De Vos (2004) calls a "major idea in sociology", the literature on elders' living arrangements suggests a rising tendency of the old to live independently as societies develop and modernize. For most scholars, not only the elderly but also the adult children generation *prefer* to live apart, keeping "intimacy at a distance" but maintaining contact and exchanging support by means of a *modified extended family* (Rowland 1984).

Preferences of both aged parents and adult children represent important predictors of coresidence patterns, besides costs, benefits, and opportunities (Da Vanzo and Chan 1994). Using a rational choice model, Kim and Rhee claim that choosing a particular living arrangement is "a function of preferences actualized under a specific set of demographic and socioeconomic resources and constraints" (2003: 189), while De Vos and Arias, quoting Zsembik, argue that "opportunities and resources directly affect actual living arrangements and indirectly through a preference structure" (2003: 98).

Preferences vary according to demographic, economic and cultural attributes. For Kim and Rhee (2003), these attributes operate through values of privacy and the interplay between the need for financial, physical, and emotional support and resources provided by children and other available kin.

Factors associated with living arrangements

1. Kin availability

Population aging affects the supply of kin available for coresidence and creates an age structure that has an effect on both intergenerational ties —which become fewer and more homogeneous— and intergenerational relations —which tend to become more

complex and varied (Hagestad 1988).[4] Overall, a long-term decline in fertility decreases both kin availability and opportunities to coreside among generations (Kramarow 1995) while an earlier completion of childbearing results in fewer parents having children still living at home when they reach later life (Rowland 1984).

The number and ages of available children, along with their sex composition, are key determinants of elderly living arrangements. More offspring are positively related to extended households, and this finding is consistent among developed and developing countries, contemporary and historical populations (Da Vanzo and Chan 1994, Rowland 1984). Not only do opportunities to coreside with adult children increase with family size, the likelihood of receiving support from non-coresident children and the average number providing support also increases with greater kin availability (Knodel, Chayovan et al. 1992).

> Hypothesis # 1. The more children an elderly individual has, the greater the likelihood of coresiding with a child.

2. Economic resources

Economic feasibility has increased elders' opportunities to live alone, with higher incomes and home ownership facilitating household headship rates. A common explanation is that rising income levels have enabled the elderly to purchase more privacy in the form of independent living (Kramarow 1995) and are therefore less likely to coreside. Several studies carried out in the United States have found a positive relationship between income and independent living (see Speare and Avery 1993),

[4] With continued low fertility, children grow up with fewer collateral relatives—fewer siblings, aunts and uncles, and cousins—but with many ancestral relatives as low mortality continues (Coale 1986).

although a strong positive association between parent-children coresidence and higher social status—measured by home ownership and high education—has been uncovered in some European countries (National Statistics 2004). For Da Vanzo and Chan (1994), a decline in the status of the elderly due to their adult children taking control over their economic resources can also be another cost of coresidence that is more likely to be avoided among higher-income parents.

Although seldom mentioned, institutional factors have also contributed to the expansion of economic resources among elders and to their growing tendency of living alone, particularly in industrialized Western countries. The state, for example, has contributed to this trend by providing pensions and other sources of formal support — mainly through the expansion of social security benefits (Preston 1984) and public services (Hogan, Eggebeen et al. 1993). By contrast, in some Asian countries the state — via housing policy (Logan, Bian et al. 1998) and tax incentives (Da Vanzo and Chan 1994)— has searched to increase joint coresidence of elders with their adult offspring.

Hypothesis # 2. Elders with a higher income may be less likely to coreside because of the increased ability to purchase privacy.

3. Physical feasibility

Along with economic benefits, coresidence also supplies companionship and emotional support, and fulfills physical needs of parents and children (Da Vanzo and Chan 1994), in particular among elders with an advanced age. Although age is commonly an indicator of health status, previous research has pointed out that this relationship is uncertain, particularly among the younger elders (Potter et al. 1999). Elders in poor health, with greater disabilities, and older elders, are less likely to live alone (Solís 2001)

and some increase in coresidence would be expected in response to the needs of aging parents due to health problems and widowhood (Ward et al. 1992).

The benefits of coresidency may also take the form of domestic care that otherwise might need to be purchased, especially among households with elderly individuals with physical disabilities (Cameron 2000).

Hypothesis # 3. Older elders will be more likely to coreside because of a greater need for care in the home.

Hypothesis # 4. Elders with a disability will be more likely to coreside.

4. Preferences and cultural norms

Ideational changes have also played an important role in coresidence patterns by creating new configurations of family roles, as well as new expectations and decisions about marriage and parenthood due to the spread of individualism and a different sense of filial responsibilities. These altered attitudes and values governing residential behavior (see Thomas and Wister 1984) have been thought to weaken traditional family systems of old-age support (Rowland 1984, Knodel, Chayovan et al. 1992).

For Kim and Rhee (1997), preference for privacy versus coresidence is embedded in societal norms and cultural values involving inheritance rules, arrangements for the care of young and aged dependents, gender roles, and organization of domestic chores. This preference varies by cultural family system, and while some systems emphasize privacy —which may yield independent living arrangements— others put a greater value on family cohesiveness, therefore encouraging coresidence. Decline in the prevalence of multi-generational coresidence is often seen as a heightened value of privacy due to greater exposure and adaptation to Western values, a situation far more

common among individuals whose lives are more oriented to the public sphere. In other words, women would be more likely than men to value family cohesiveness and put greater emphasis on living together with their adult children.

Although some have argued that this trend toward independent living is stronger in industrially advanced Western societies, research conducted among Asian and Hispanic groups points in the same direction (De Vos and Arias 2003, Hermalin 2000, Kim and Rhee 1997), suggesting that both economic resources and cultural orientations shape household structure patterns.

Values of privacy are also influenced by age and formal education (Kim and Rhee 1997). As an indicator of cohort, age may affect attitudes toward privacy and coresidence, with the oldest old holding the greatest preference for coresidence. On the other hand, formal education increases the value of privacy, by offering opportunities for involvement in public activities and exposure to life styles which favor independent living, and by providing greater access to resources (Da Vanzo and Chan 1994).

Hypothesis # 5. Less educated elders will be more likely to coreside because of more traditional preferences.

5. Housing costs

If economic resources and individualist values are strong determinants of independent living, then the likelihood of living with relatives will increase with lower income and family-oriented norms, which the literature associates with traditional or rural settings. However, due to lower housing costs, children's out-migration and increased land availability, opportunities for coresiding may be lower in rural areas compared to urban localities, as Da Vanzo and Chan (1994) suggest. In urban settings, necessity rather than

tradition would be a major determinant of coresidence, since economies of scale provide an added incentive due to greater housing costs.

Previous research on living arrangements has used type of locality as a proxy for housing costs. Measured at the community level, this variable is intended to reflect housing market and costs of living arrangements, with higher housing costs found in metropolitan than in urban areas. For some scholars this variable also taps on modern/traditional attitudes and preferences (DaVanzo and Chan 1994) or lifestyles (De Vos 2000). Coresidence may be higher in urban areas as a result of higher housing costs (Da Vanzo and Chan 1994), but it may also be higher in rural areas because of more traditional attitudes regarding support for elders. Type of locality is also associated with availability of public services (De Vos 2000), employment opportunities and demographic regimes (Kramarow 1995).

Hypothesis # 6. Coresidence may be higher in urban areas because of higher living costs.

6. Migration

Although barely mentioned in the literature, migration —along with urbanization and increased female labor participation— also affects living arrangements as generations of a family may live in different places (Martin 1989). Research shows that when children migrate abroad, financial transfers substitute for time transfers (Couch, Daly et al. 1999, Zissimopoulos 2001).

Some scholars suggest that geographical distance reduces the incidence of all types of assistance between generations, while others point out that distance only affects some forms of help such as money and gifts, while advice or emotional support appear

less affected. In general, household tasks and assistance involving face-to-face interactions also decrease with physical distance (Hogan, Eggebeen et al. 1993).

The effect that the geographic dispersion of children has on the well-being of aged parents has been studied in non-Western and low-income countries characterized with high rates of international out-migration (Knodel, Friedman et al. 2000). Given that children living abroad typically reside in economically more advanced countries, they may be an important source of support to parents. However, children's location affects the chances of providing particular types of support. Children living abroad are more likely to provide money or appliances to parents, but in certain contexts, coresident children are far more likely than non-coresident children to provide this kind of assistance.

The effect that migrant children have on patterns of support and assistance to elderly parents is uncertain. Children may (a) leave parents living alone as they migrate either to cities or other countries, (b) interrupt or cease contact with their parents —and hence support in old age— when distances are larger, but (c) may also augment overall support if the children's earnings are increased in their new places of residence (Knodel, Friedman et al. 2000).

Among American families, distance —net of level of contact and quality of filial relationship— has proved to have a significant effect on the assistance that aged parents provide to their adult children, but it does not affect assistance in the opposite direction (Hogan, Eggebeen et al. 1993). In fact, and in agreement with Litwak's argument,[5] Hogan and collaborators found a positive relation between distance and financial

[5] That distance limits mainly those forms of assistance that require interpersonal interaction, with other forms of assistance occurring through modern communication and transportation technologies.

support from adult children to aging parents, suggesting an attempt "to substitute the purchase of services for their actual provision" (1993: 1448), even among those groups where the migration experience seriously decreases intergenerational support.

Zissimopoulos' findings (2001) point in the same direction as time costs associated with distance from parents appear to influence the amount of financial or time transfers a parent receives. She finds that children with higher income and wealth increase transfers to parents, but while an increase in the wage rate increases financial transfers, time transfers decrease.

Overall, the migration experience, by creating geographic distances between the generations and reducing their frequency of contact, weakens intergenerational assistance even in populations with strong family-oriented values. However, even distant children are likely to provide care to their elder parents during times of need, and to provide monetary assistance, suggesting a substitution between financial transfers and coresidency.

> Hypothesis # 7. Elders with migrant children may be less likely to coreside because of (a) a reduced kin availability and (b) more financial resources coming from remittances that enable them to live independently.

Data and Methods

The analysis presented in this paper is based on micro-level data coming from the 10 percent sample of the 2000 XII Mexican Population and Housing Census (MPHC). This is the first time a random household survey is collected during enumeration activities, and that a long-form questionnaire is used rather than the regular census ballot.

The extended questionnaire was administered to a random sample of about 2.2 million dwellings, which represents 10.6 percent of all dwellings in the country. This sample size allows to generate estimates for most variables at a municipal level, for all localities with at least 50,000 inhabitants and four locality sizes in each state. The sample includes the foreign born who were usual residents in the country at the time of the enumeration, but excludes foreign diplomats, institutionalized population and migrants.

Information was collected through personal interviews with a selected respondent, defined as a usual resident, 15 years or older, and well-informed on the characteristics of all household members. Demographic and socio-economic data for every usual member of the household were collected using a household listing, including: age, sex, relationship to the head of the household, place of birth, and place of residence five years ago. Fertility and mortality information was also collected for every woman 12 years and older living in the household.

Social variables include religion, ethnicity, marital status, use of health services, social security, and disability. Education variables comprise literacy, educational attainment, school attendance and reason for abandonment. Economic information covers labor force status, main occupation, class of worker, industry, place of work, job benefits, and sources of income (wages, pensions, transfers from non-coresident relatives —living abroad or within Mexico— public assistance, and interest and rental income).

Population of study

For the purpose of this paper only elderly couples are included in the analysis. This restriction is due to theoretical and practical reasons. Being married may supply domestic, physical, and financial support in a similar way that having coresident

children while being unmarried may imply a greater need for assistance with differential effects according to elder's gender: unmarried male seniors may need help with domestic services, while unmarried female seniors may need financial assistance (Da Vanzo and Chan 1994). This means that only under particular circumstances an elderly couple would prefer not to live alone: a life-course phase where dependent children are still at home or elders who go to live with their adult children as dependents. In practical terms, information on number of surviving children —our indicator for measuring kin availability— is attached to women only.

In 2000, 23.7 percent of all households had at least one member 60 years or over, and in 48 percent one or more elders are married and their spouse is living in the same household. The category "spouse" includes people in formal and in common-law marriages, and at least one partner had to be 60 years or older for the couple to be classified as elderly.

The analysis presented here is representative of the vast majority of elderly couples (n=271,158) since only 2.5 percent of these couples were dropped due to missing data on one or more key variables, or because more than one spouse was listed on the household roster. Therefore, elders living alone, unmarried elders or single elders non-related to the head of the household are excluded.

In census and most household surveys collected in Mexico, the respondent designates who is the head of the household. In most cases, it is the owner or the person who buys or rents the home, or the main decision-maker. Objective and subjective criteria involved in designating someone as the household head give priority to men over women, seniors over youngsters, breadwinners over dependents, and persons with resources and authority over those lacking power. Among the elders, those who are not

head of the household are, on average, older and sicker, and have fewer resources than those who remain in their own household (Angel et al. 2000). Here a couple is treated as household head if the wife or husband is listed as the head in the household roster.

Dependent and independent variables

The relationship to the head of household was used to construct four types of living arrangements where elderly couples are found: (a) couple living alone; (b) living with children as a head of household; (c) living with other relatives or unrelated persons as a head of household; and (4) living with children as a non-head of household. Living with children includes a son or daughter by birth, a stepchild, or adopted child of the householder, regardless of the child's age or marital status.

The dependent variable is living arrangements of the elderly couple and the unit of analysis is the elderly couple. This classification is hierarchical such that an elderly can live with children and other relatives when classified as "living with children" but cannot live with relatives and be classified as "living with children" (see De Vos 2000).

Four sets of factors have been identified as determinants of living arrangements, and an ideal set of covariates should include measures of each dimension: (1) kin availability, (2) financial and physical feasibility, (3) preferences and cultural norms, and (4) housing (Potter, Saad et al. 1999). This study includes measures of all four factors as well as migration-related variables (see Table 1).

1. Kin availability. This variable is estimated with number of surviving children from women's fertility data. Previous research reports that marginal benefits from each additional child beyond the second or third are small, and that the two most important distinctions are between (1) having none compared to some, and (2) having one child

compared to two or more. Fertility in Mexico has declined until recently though, and still large numbers of children ever born are reported for older cohorts (averaging 6.4 for women aged 60 and over in 2000). Following Uhlenberg's recommendations (see Rosenthal 2002) and considering Mexico's fertility patterns, kin availability is coded as childless or none, one, two, and three or more surviving children.

2. Financial and physical feasibility. Previous research has shown a strong positive association between individual economic resources and the likelihood of independent living arrangements (Da Vanzo and Chan 1994; Macunovich, Easterlin et al. 1995). This positive effect is also consistent when economic resources are measured at the state-level (Kramarow 1995).

Several measures of financial feasibility are estimated using the amount of money that each partner receives from different sources: wages, pensions, and other—including public assistance, and interest and rental income. Husband and wife's earnings were averaged for each source, and correspond to monthly earnings in Mexican pesos.

Physical feasibility is measured using the couple's average age and the presence of at least one limiting condition on one or both members of the elderly couple.

3. Preferences and cultural norms. Couple's average years of formal education is used as a proxy for measuring preferences, under the assumption that more education is correlated with modern values, like purchasing privacy and independent living (De Vos 2000; Da Vanzo and Chan 1994).

4. Housing. Previous research on living arrangements has used type of locality as a proxy for housing costs. Three types of locality were constructed by combining the Mexican Population Council (CONAPO) definition of metropolitan zones and a classic

definition of rural municipalities as those with less than 2,500 inhabitants. All municipalities identified by CONAPO as metropolitan were classified as such regardless of their total population, and the rest were classified as rural or urban on the basis of their number of inhabitants.

5. Migration is a key determinant of coresidence patterns, especially when children migrate abroad, with both positive and negative effects on the likelihood of living alone. In order to assess the positive effects of migration, two measures are included: amount of remittances coming from (a) relatives living within Mexico and from (b) relatives living abroad. Both types of remittances are referred to income received in the previous month and are used as proxy measures of intergenerational support.

The negative effects of migration are estimated with the proportion of households with international out-migrants measured at the municipal level, as reported by CONAPO.[6] This variable is intended to estimate the presence of adult children available for coresidency.

Contextual control variables

In order to distinguish some effects related to the type of locality mentioned above, several composite indices were tested (economic opportunity, human development, marginality). Correlation between them was very high so only the economic opportunity index is included in this analysis. This measure was constructed following standard

[6] Out-migrants are defined as household members who went to live in the United States during the previous five years and were still living there at the time of the survey (Tuirán, Fuentes et al. 2002).

procedures in factor analysis and inclusion of variables of interest is based on theoretical considerations (see Appendix in Lindstrom and Lauster 2001). Twelve measures of economic activity were tested allowing an unrestricted number of factors. A one-factor solution was chosen, retaining only those variables with high loading: proportion of economically active men working in manufacturing, proportion of economically active men working in services, proportion of economically active women working in services, proportion of economically active population earning more than double the minimum wage, and natural log of municipal population. These variables measure non-agricultural economic opportunities in terms of wage and investment.

Table 1. Determinants of living arrangements

Variables	Definition and coding
Living arrangement	Dependent variable
Alone	1=Elderly couple living alone (reference category)
Head with child	2=Elderly couple is head of the household and lives with children
Head with relatives	3=Elderly couple is head of the household and lives with other relatives
Non-head with child	4=Elderly couple living with a child who is head of the household
Kin availability	
No children	Reference category
One child	1=At least one surviving child
Two children	1=Two surviving children
Three or more children	1=Three or more surviving children
Economic feasibility	
Wages	Log of couple's average monthly income from paid work (continuous)
Pension	Log of couple's average monthly income from pensions (continuous)
Formal support	Log of couple's average monthly income from formal support; includes subsidies and governmental support programs (continuous)
Physical feasibility	
Age centered on mean	Couple's average age centered on the mean (continuous variable)
Age squared	Couple's average age squared and centered on the mean
Disability	
No disability	Reference category
Disability 1	1=One spouse reports at least one type of disability
Disability 2	1=Both partners report at least one type of disability
Cultural norms	
Education	Couple's average number of years in formal education (continuous)
Housing costs	
Rural	Reference category
Urban	1=Urban municipality
Metropolitan	1=Metropolitan municipality
Migration	
US remittances	Log of couple's average monthly income from international remittances (continuous)
Internal remittances	Log of couple's average monthly income from internal remittances (continuous)
Migration intensity	Proportion of households with international migrants at municipal-level in 2000
Control variable	
Economic opportunity	Index of economic opportunities at municipal-level in 2000 (continuous)

Statistical analysis

Empirical analysis was developed in two stages. The first stage is based on bivariate associations of demographic and socio-economic factors and types of elderly living arrangements. In the second stage, a multinomial regression model was estimated to assess the relative risk of living with children —either as heads of household or as non-heads— or with other relatives compared to living alone. This model is an extension of linear regression models and appropriate when dealing with multiple categorical outcomes.

The odds of living with children or other relatives compared to living alone are given by:

$$\log[\pi_m/\pi_1] = \beta_{m,0} + \sum_j \beta_{mj} X_{ij}, \qquad (m = 2, 3, 4)$$

where π_2 is the probability of an elderly couple who are head of the household and live with children with covariates X_{ij}, and unknown parameters $\beta_{1,0,}$ and $\beta_{1,j;}$ π_3 is the probability of an elderly couple who are head of the household and live with relatives with covariates X_{ij}, and unknown parameters $\beta_{1,0,}$ and $\beta_{1,j;}$ π_4 is the probability of an elderly couple non-head of the household who live with their children with covariates X_{ij}, and unknown parameters $\beta_{1,0,}$ and $\beta_{1,j;}$ and π_1 is the probability of an elderly couple living alone with covariates X_{ij}. The X_{ij} covariates correspond to individual and community level characteristics included in the model.

Results and Analysis

Bivariate results

Table 2 provides basic summary statistics of the determinants of elders' living arrangements. Elders' age and completed years of education differ significantly with respect to their type of living arrangement. Elders who are household heads and live with children are those with the youngest ages, which suggests that the presence of children is due more to a life-course effect —*i.e.* households still with young or dependent children— than to parents' need. The opposite situation is found among non-heads living with children, *i.e.* those who left their own home to live with some of their adult children due to lack of economic resources, or some physical problem associated with their advanced age, and who represent the oldest cohorts.

In general, elderly couples exhibit very low levels of formal education. On average, couples report completing between two and three years of school. The lowest completed schooling was found among non-heads, the oldest age group in this study. This low level of school attainment is not surprising since most cohorts analyzed here grew up when Mexico was predominantly a rural society, access to education was limited, and valuable job-skills were not acquired through formal schooling. However, this very low-education is associated with low-wage jobs, with scarce or null benefits after retirement, and with increasing financial dependence as people age.

Having a disability is also an important factor associated with household structure, in particular when both spouses declare having at least one type of limiting condition. The proportion of elders where both are disabled is 3.8 times greater among non-head elders than in heads living with children, and about 2 times greater than

among elders living alone. Among heads living with children this could be due to their relative younger ages.

Elders' geographic location also shows important differences. Although due to the highly urbanized character of the country, we find most elders residing in metropolitan areas, around one third of couples living alone or in extended households live in rural municipalities. Among elders living alone, this may be associated with higher costs of housing in urban and metropolitan areas, while cultural preferences or strong family norms associated with the provision of assistance to needy relatives — including ever married or single elders— could be having a more important role among elders living with other relatives. Providing companionship to unmarried and relatively dependent relatives could also be more prevalent in rural areas because of stronger ties to kin and lifelong friends (Fussell and Massey 2004).

As expected, unavailability of surviving children is more frequent among elders living alone and those living in extended households. Lack of kin availability, however, does not seem to be a key reason for not living with children, since about 75 percent of these couples have three or more surviving children. Interestingly, solitary couples live in municipalities with higher international migration intensity, while among non-head elders international migration is somewhat lesser.

Living with children also seems to be associated with higher economic opportunities at the municipal level. Among household heads this offers them more potential resources to raise their children, in particular if the latter are age-dependent, and also retains young adults in the household specially if they are unmarried or lack enough economic resources to establish an independent household. Among non-heads, the opposite situation could be at work since dependent elders leave their home and

move with their adult children, who seem to be living in areas offering good opportunities in terms of wage and investment.

As expected, economic feasibility is associated with type of preferred living arrangement. Among non-head elders, more than half of them report no income from work or retirement, while most household heads living with children report that at least one of them receives wages. Receiving remittances and some kind of institutional support is more frequent among elders living alone and those living in extended households, while lack of these resources is again more prevalent among non-head elders. Levels of income point in the same direction, with non-head elders reporting the lowest amounts in each income category considered.

Table 2. Selected demographic and socio-economic characteristics by type of living arrangement, Mexico 2000

Determinants of living arrangements	Elderly couples living alone	Household heads living with children	Household heads living with other relatives	Non-heads living with children
No. of surviving children				
No children	11.0	0.7	8.5	1.9
One child	6.7	3.8	6.2	7.8
Two children	8.9	7.0	8.6	8.4
Three or more children	73.4	88.4	76.7	82.0
Age				
Mean	67.9	63.4	66.6	74.4
S.D.	7.6	7.1	7.2	7.6
Presence of disability				
No disability	79.5	85.4	81.2	67.7
Disability 1	16.2	12.4	15.4	24.0
Disability 2	4.3	2.2	3.4	8.3
Yrs. of education				
Mean	3.5	3.7	3.5	2.3
S.D.	3.9	3.8	4.1	2.8
Locality				
Rural	31.2	26.3	33.2	22.2
Urban	26.6	25.1	26.2	24.5
Metropolitan	42.2	48.6	40.6	53.2
Migrant households				
Mean	5.3	4.7	5.1	4.3
S.D.	5.6	5.1	5.6	5.0
No. of cases	74,148	172,918	19,684	4,408

Source: XII Censo General de Población y Vivienda 2000, 10% sample

Table 2. ***(continued)***

Determinants of living arrangements	Elderly couples living alone	Household heads living with children	Household heads living with other relatives	Non-heads living with children
Economic opportunity index				
Mean	1.127	1.235	1.070	1.275
S.D.	1.075	1.076	1.098	1.086
No. and sources of income				
Two wages	8.5	10.1	8.9	2.9
Two pensions	5.0	3.9	4.4	2.3
One wage	40.4	48.4	47.0	22.9
One pension	19.8	16.8	16.2	15.5
None	25.3	20.2	22.8	55.0
Percentage with other sources of income				
Remittances	19.4	14.0	19.3	14.3
Institutional support	25.1	22.5	27.8	12.1
Economic resources				
Wages*	585	809	852	246
Pension*	475	353	343	152
Internal remittances*	100	83	82	59
International remittances*	60	53	63	19
Other sources*	167	122	304	36
No. of cases	74,148	172,918	19,684	4,408

* Average amount in Mexican pesos

Source: XII Censo General de Población y Vivienda 2000, 10% sample

Multivariate results

A multinomial logistic regression model was used to estimate the risk of sharing residence with different kinds of relatives compared to solitary living. Table 3 presents the odds ratios of the likelihood of coresidency compared to elderly couples living alone. The last column in Table 3 shows the odds ratios of living with children between heads of the household and non-heads in terms of competing risks. Both models were weighted using the sampling weights provided by the INEGI (2003).

In conceptual terms, kin availability reflects the maximum number of opportunities for coresidency (Cameron 2000) and this model shows that with more children, the likelihood of an elderly couple to live with one of them increases. The effect is larger when elders are in charge of the household and is probably associated with a life-course stage where dependent children or unmarried young adults are still at home. For non-head elders living with children, effects of kin availability are also important: having three or more children increases two times the likelihood of coresidence compared to couples living alone (our baseline hazard) and a similar though slightly smaller effect is found with two surviving children.

As expected, kin availability reduced the likelihood of elders living with other relatives, and the likelihood decreases with the amount of surviving children. Among elders having at least one child, the likelihood of living with other relatives is about 45 percent lower, and an additional surviving child decreases the likelihood to 14 percent compared to couples without surviving children with whom to coreside.

According to the literature, older parents are more likely to coreside with their children because of a greater need for care in the home and more traditional attitudes (Cameron 2000). This is certainly the case among non-head elders, but not among

household heads, where their lower risk of sharing residence with their offspring is due to a life-course effect (children leaving the home as they grow older and become independent). Although with cross-sectional data timing of the residency decision is lacking, change in the headship status from head to non-head suggests that as elders age they are more likely to move in with an adult child.

The presence of a spouse with a limiting condition increases 16 percent the risk of sharing a residence with children among non-head elders but contrary to previous findings also decreases the likelihood of coresidency when both spouses are disabled among heads of the household.

A higher income reduces the likelihood of coresidency among elders because of the increased ability to purchase "privacy", and this effect is stronger among non-head elders than among heads. Interestingly, the effects of pensions and institutional support on elders' living arrangements are larger than that of wages, which can be explained in part because the former are more stable and reliable sources of earnings. Income coming from pension reduced the likelihood of non-heads living with children 15 percent, and of elders living with other relatives in 2 percent. A higher income from wage increased the likelihood of coresidency only among household heads living with other relatives, and although the risk is highly significant, the effect is quite small. However, it suggests that having a relative stable source of income enables married elders to support other relatives by offering them housing or pooling resources as in economies of scale.

As hypothesized, education decreases the likelihood of coresidency and the effects are stronger among non-heads —8 percent less likely— than among heads living with children —only 1.7 percent less likely— compared to solitary living. This model also confirmed the hypothesis that coresidency is higher in urban areas because of

higher costs of living, but only when the home is shared with a child. Among non-heads, coresidency with children is 1.4 times more likely in urban areas and almost 2 times more likely in metropolitan municipalities. Among household heads, metropolitan settings also increased the likelihood of coresidency compared to urban areas, but the differences are smaller (1.4 and 1.2 times, respectively).

Regarding our measures of migration, results show that informal transfers work in the same direction than other financial resource —decreasing the likelihood of coresidency— but with slightly stronger effects among non-heads, in particular when remittances come from relatives living abroad (13 percent less) than when support is internal (11 percent less). The opposite situation is true for household heads, where receiving financial support from internal non-coresident relatives is more important for lowering the risk of coresidency than international remittances (5 and 3 percent less, respectively).

Among elders living with other relatives, receiving financial support from abroad increases the odds of a shared residence (4 percent more). Bivariate analysis had shown that elders in this type of living arrangement report, on average, the largest amounts of income —including that coming from informal transfers— among elderly couples. Rather than increasing sources to purchase privacy as seems to be the case for coresidency with children, here informal transfers are escalating resources to support other relatives.

International migration intensity shows the expected effect: as migration becomes a more widespread phenomenon in a municipality, it decreases the number of kin available and hence the likelihood of coresidency. This effect is larger among non-

heads than among household heads. In the first case, the likelihood of shared residence is 4 percent lower while in the latter the reduction is about 1 percent.

The most vulnerable situation by far is found among non-head elders, and results suggest that disability, meager economic resources, limited kin availability, higher housing costs, and traditional norms have stronger effects on them that in other types of coresidency. Although in relative terms less than 2 percent of elderly couples live with their children as non-heads, we are in front of an extremely vulnerable situation given that "custom most likely dictates that the oldest male be accorded the position of household head regardless of earnings" (Cameron 2000: 21).

Competing risks of living with children depending on elders' headship status

The fourth column in Table 3 shows the odds ratios for predicting coresidency with children according to headship status. Results show that the more offspring available the lower the risk of non-heads to live with children compared to household heads. While non-head elders with two surviving children are 66 percent as likely to coreside jointly as household heads, with three surviving children the probability of joint coresidence is only one third.

Both individual and structural conditions have important effects on the likelihood of joint coresidency with children. On the one hand, age and disability increase the likelihood of joint coresidence among non-heads. Disability in one of the spouses increased the likelihood of coresidency in 18 percent among non-heads, but disability in both spouses increased the likelihood in 30 percent. Education also decreased the likelihood of coresidency among non-heads compared to heads living

with children, which suggest that elders with more traditional values are those who prefer to coreside and do it by moving in with an adult child.

On the other hand, living in areas with high housing costs increased the risk of coresidency, with non-heads being 19 percent more likely to share residence with their children in urban areas and 39 percent more likely in metropolitan areas. This suggests that regardless of other determinants, the effect of housing costs on the likelihood of coresidency is stronger among non-heads.

Ownership of financial resources also decreased the likelihood of coresidency among non-heads, with the greatest effects coming from institutional support like government subsidies, pensions and wages. Income from public assistance, interest and rental income —our measure of institutional support— decreased 16 percent the risk of coresidency among non-heads, while wages and pensions decreased it 13 percent. Remittances, on the other hand, only decreased this risk in 11 percent if they are internal and 6 percent if coming from abroad. Although measured at the community-level, international migration intensity appears as a major determinant of coresidency among non-heads who were 97 percent as likely to coreside with children as household heads when migration intensity increases.

Table 3. Odds ratios from multinomial regression models predicting type of elderly living arrangement, Mexico 2000

Determinants	Head with children *vs* living alone	Head with relatives *vs* living alone	Non-head with children *vs* living alone	Head with children *vs* non-head with children
No children	---	---	---	---
One child	---	0.560**	---	---
Two children	2.982**	0.862**	1.945**	0.655**
Three or more children	5.887**	0.957	2.021**	0.344**
Wages	0.998	1.019**	0.873**	0.875**
Pension	0.975**	0.979**	0.854**	0.875**
Formal support	0.984**	1.022**	0.827**	0.841**
Age centered on mean	0.906**	0.980**	1.129**	1.245**
Age squared	1.002**	1.000	0.998**	0.996**
No disability	---	---	---	---
Disability 1	0.984	1.036	1.158**	1.178**
Disability 2	0.834**	0.935	1.068	1.294**
Education	0.983**	1.001	0.924**	0.939**
Rural	---	---	---	---
Urban	1.150**	0.975	1.377**	1.191**
Metropolitan	1.402**	0.975	1.945**	1.386**
US remittances	0.969**	1.040**	0.867**	0.895**
Internal remittances	0.950**	0.987**	0.893**	0.940**
Migration intensity	0.990**	0.987**	0.961**	0.971**
Economic opportunity	1.038**	0.967*	1.095**	1.054
Observations	271158	271158	271158	271158
Wald chi2	21318.31			19963.66
DF	49			49

* significant at 5%; ** significant at 1%

Source: XII Censo General de Población y Vivienda 2000, 10% sample

Conclusions

A changing age structure due to population aging is often regarded as shifting resource flows, causing an unequal burden between generations, and compromising elders' well-being. Smaller families—traditionally regarded as beneficial for the development process—are problematic in a context of population aging (Knodel et al. 2000),[7] and the absence of coresident adult children is seen as a critical issue in terms of a decreasing number of kin available to engage in informal support networks. Although some scholars have shown that fertility changes associated with the demographic transition may have had little effect on the number of relatives providing support to the elderly (Rowland 1984),[8] most of the arguments about the future well-being of elders are still focused on the role of fertility.

In Mexico, migration may be playing a more important role on the availability of informal support provided by non-coresident children, in particular when children migrate abroad and tend to stay for longer periods in communities of destination. Looking at the effect of international migration on household structures, results suggest that migration reduces the likelihood of coresidence by decreasing the number of available children. However, as Knodel and collaborators have found, migration to a foreign country is generally associated with higher earnings, and children living abroad can become an important source of support to parents (2000). Results from the

[7] Among the features of the development process that are considered as weakening family support for the elderly, the literature mentions a declining family size, a prolonged longevity, an increasing employment of women outside the home, and an increasing exposure to Western values through the mass media and educational systems.

[8] Because of a lowered mortality and the historical decline in marital fertility, the average number of children surviving into parents' old age has been restored to pre-transition levels, making large families unnecessary for elders' support, as Australian data suggest.

multivariate model point in this direction, as remittances coming from non-coresident relatives are used as a substitute for coresidency in a similar way than other types of financial resources.

In spite of the common claim that cultural norms in Mexico enforce coresidency with aged parents, I did not find evidence to support this view among elderly couples. The elderly with the necessary financial resources prefer to live alone as the literature on modernization suggests. Elders who do coreside with their children fall in two categories: those who due to their life-course stage still have dependent children, and those who are in very vulnerable conditions and tend to move in with an adult child due to an advanced age, some disability, or a lack of financial resources.

Simulation models carried out elsewhere suggest that, in the long-run, non-coresident children will decrease their amount of support to the elderly and the burden of support will be mostly absorbed by their coresident peers (Knodel, Chayovan et al. 1992). Although it is difficult to predict if migration will have such effect in the Mexican context, data suggest that coresidency is not a necessary condition to provide support. Around one in five elderly couples receive financial support through informal transfers, and for those living alone remittances represent only 5 percent of their total income. In terms of survival, wage and pension seem to be more important, since more than 70 percent of financial resources of the elderly are located here.

Even in contexts with "traditional" family-systems where coresidency with aged parents is strongly encouraged, demographic but especially economic conditions are shaping intergenerational relations and family support to the elderly. Although in the near future the State pension reform plan will start to show some of its benefits, given the high rates of self-employment and low wages among the elders, families will

provide most of the necessary support for this age group. How much this increased support has become a burden under the current economic conditions or to what extent households and families have found other strategies to ensure their survival and well-being is something that should be included in the agenda of population aging studies.

BIBLIOGRAPHY

Angel, J., R. Angel and K. Markides (2000). "Later-Life Immigration, Changes in Living Arrangements, and Headship Status among Older Mexican-Origin Individuals." Social Science Quarterly **81(**1): 389-403.

Aquilino, W. S. (1990). "The Likelihood of Parent-Adult Child Coresidence Effects of Family Structure and Parental Characteristics." Journal of Marriage and Family **52**(May): 405-419.

Bongaarts, J. and Z. Zimmer (2001). Living arrangements of older adults in the developing world: an analysis of DHS household surveys, Population Council.

Brubaker, T. (1983). Introduction. Family Relationships in Later Life. T. Brubaker. San Francisco, Sage Publications.

Cameron, L. (2000). "The Residency Decision of Elderly Indonesians: A Nested Logit Analysis." Demography **37**(1): 17-27.

Chackiel, J. (2000). El envejecimiento de la población latinoamericana: ¿hacia una relación de dependencia favorable? Población y Desarrollo. Santiago de Chile, Centro Latinoamericano y Caribeño de Demografía**:** 37.

Cherlin, A. (1983). A Sense of History: Recent Research on Aging and the Family. Aging in Society: Selected Reviews of Recent Research. M. Riley, B. Hess and K. Bond. Hillsdale, New Jersey, Lawrence Erlbaum Associates**:** 5-23.

Coale, A. J. (1986). "Demographic Effects of Below-Replacement Fertility and Their Social Implications." Population and Development Review **12**(Supplement: Below-Replacement Fertility in Industrial Societies: Causes, Consequences, Policies): 203-216.

Cohler, B. and K. Altergott (1995). The family of the second half of life: connecting theories and findings. Handbook of Aging and the Family. R. Blieszner and V. Hilkevitch. Westport, Connecticut, Greenwood Press**:** 59-94.

Couch, K. A., M. C. Daly, et al. (1999). "Time? Money? Both? The Allocation of Resources to Older Parents." Demography **36**(2): 219-232.

DaVanzo, J. and A. Chan (1994). "Living Arrangements of Older Malaysians: Who Coresides with their Adult Children?" Demography **31**(1): 95-113.

DeVos, S. (2004). "Research Note: Revisiting the Classification of Household Composition Among Elderly People." Journal of Cross-Cultural Gerontology **19**(2): 135-152.

DeVos, S. (2000). "Kinship Ties and Solitary Living Among Unmarried Elderly Women

In Chile and Mexico." Research on Aging **22**(3): 262-289.

DeVos, S. and E. Arias (2003). "A note on the living arrangements of elders 1970-2000, with special emphasis on Hispanic subgroup differentials." Population Research and Policy Review **22**: 91-101.

DeVos, S., P. Solís, et al. (2001). Receipt of instrumental assistance and extended family residence among elders in Mexico. Center for Demography and Ecology Working Paper, University of Wisconsin-Madison**:** 33.

DeVos, S. and K. Holden (1988). "Measures Comparing Living Arrangements of the Elderly: An Assessment." Population and Development Review **14**(4): 688-704.

Durán, M. (1988). Hogares y familias: dos conceptos en busca de definición. Las Familias Monoparentales. Madrid, Ministerio de Asuntos Sociales.

Eggebean, D. (1992). "Family Structure and Intergenerational Exchanges." Research on Aging **14**(4): 427-447.

Fonte, C. (1999). ¿En qué hogares viven los viejos? México, 1999. Centro de Estudios Demográficos y Urbanos. México, El Colegio de México**:** 35.

Fussell, E. and D. Massey (2004). "The limits to cumulative causation: international migration from Mexican urban areas." Demography **14**(1): 151-171.

Gomes, C. and V. Montes de Oca (2002). Ageing in Mexico. Families, Informal Care and Reciprocity. UNRISD Meeting on Ageing, Development and Social Protection, Madrid.

Gomes, M. C. (1997). "El envejecimiento poblacional y las formas de residencia en México." Papeles de Población **3**(14): 171-194.

Guzmán, J. M. and R. Hakkert (2002). Envejecimiento demográfico y arreglos familiares de vida en América Latina. Working Papers Series CST/ LAC. México, D.F., UNFPA**:** 30.

Hagestad, G. O. (1988). "Demographic Change and the Life Course: Some Emerging Trends in the Family Realm." Family Relations **37**(4, The Contemporary Family: Consequences of Change): 405-410.

Hermalin, A. I. (2000). Ageing in Asia: Facing the Crossroads. Elderly in Asia. Michigan, Population Studies Center**:** 34.

Hogan, D. P. and D. J. Eggebeen (1995). "Sources of Emergency Help and Routine Assistance in Old Age." Social Forces **73**(3): 917-936.

Hogan, D. P., D. J. Eggebeen, et al. (1993). "The Structure of Intergenerational Exchanges

in American Families." American Journal of Sociology **98**(6): 1428-1458.

INEGI (2003). "Síntesis Metodológica del XII Censo General de Población y Vivienda 2000." México: Instituto Nacional de Estadística, Geografía e Informática.

Kanaiaupuni, S. (1999). Leaving parents behind: migration and elderly living arrangements in Mexico. Center for Demography and Ecology Working Paper. University of Wisconsin-Madison.

Kim, C. and K. Rhee (1997). "Preferred Living Arrangements Among Korean Elderly." Journal of Cross-Cultural Gerontology(12): 189-202.

Knodel, J., N. Chayovan, et al. (1992). "The Impact of Fertility Decline on Familial Support for the Elderly: An Illustration from Thailand." Population and Development Review **18**(1): 79-103.

Knodel, J. and N. Debavalya (1992). "Social and Economic Support Systems for the Elderly in Asia." Asia-Pacific Population Journal **7**(3): 5-12.

Knodel, J., J. Friedman, et al. (2000). "Intergenerational Exchanges in Vietnam: Family Size, Sex Composition, and the Location of Children." Population Studies **54**(1): 89-104.

Kramarow, E. A. (1995). "The Elderly Who Live Alone in the United States: Historical Perspectives on Household Change." Demography **32**(3, Family and Household Demography): 335-352.

Lindstrom, D. and N. Lauster (2001). "Local Economic Opportunity and the Competing Risks of Internal and U.S. Migration in Zacatecas, Mexico." International Migration Review **35** (1): 1232-56.

Logan, J. R., F. Bian, et al. (1998). "Tradition and Change in the Urban Chinese Family: The Case of Living Arrangements." Social Forces **76**(3): 851-882.

Macunovich, D. J., R. A. Easterlin, et al. (1995). "Echoes of the Baby Boom and Bust: Recent and Prospective Changes in Living Alone among Elderly Widows in the United States." Demography **32**(1): 17-28.

Martin, L. G. (1989). "Living Arrangements of the Elderly in Fiji, Korea, Malaysia, and the Philippines." Demography **26**(4): 627-643.

National Statistics (2004). Living arrangements among older people: an overview of trends in Europe and the USA. Population Trends 115. London, Office for National Statistics.

Negrete, M. E. (2001). "Distribución geográfica de la población mayor." Demos **14**: 18-20.

Palloni, A. (2000). Programatic and Policy Aspects of Population Ageing and Living Arrangements. Technical Meeting on Population Ageing and Living Arrangements of Older Persons: Critical Issues and Policy Responses, New York, United Nations Secretariat.

Partida, V. (2001). "Monto y estructura de la población en el año 2000 y perspectivas en el 2050." Demos **14**: 6-7.

Potter, J., P. Saad, et al. (1999). Living arrangements and labor force participation of elderly in urban Mexico. Las consecuencias de las transiciones demográfica y epidemiológica en América Latina. Memoria del Seminario Internacional. K. Hill, J. Morelos and R. Wong. México, El Colegio de México**:** 343-364.

Preston, S. H. (1984). "Children and the Elderly: Divergent Paths for America's Dependents." Demography **21**(4): 435-457.

Rosenthal, C. (2000). Aging Families. Have Current Changes and Challenges being Oversold? The Overselling of Population Aging. Apocalyptic Demography, Intergenerational Challenges, and Social Policy. E. M. Gee and G. Gutman. Ontario, Oxford University Press**:** 45-63.

Rowland, D. T. (1984). "Old Age and the Demographic Transition." Population Studies: A Journal of Demography **38**(1): 73-87.

Solís, P. (2001). La población en edades avanzadas. La población de México. Tendencias y perspectivas sociodemográficas hacia el siglo XXI. J. Gómez de León and C. Rabell. México, Consejo Nacional de Población & Fondo de Cultura Económica**:** 835-869.

Speare, A. and R. Avery (1993). "Who helps whom in older parent-child families." Journal of Gerontology **48**(2): s64-s73.

Spitze, G. and J. Logan (1990). "Sons, Daughters, and Intergenerational Social Support." Journal of Marriage and the Family **52**(2): 420-430.

Thomas, K. and A. Wister (1984). "Living Arrangements of Older Women: The Ethnic Dimension." Journal of Marriage and the Family **46**(2): 301-311.

Tuirán, R., C. Fuentes, et al. (2000). Indice de Intensidad migratoria México-Estados Unidos, 2000. México, Consejo Nacional de Población.

United Nations (2001). World Population Prospects. The 2000 Revision. New York, United Nations**:** 34.

Wolf, D. A. and B. J. Soldo (1988). "Household Composition and Choices of Older Unmarried Women." Demography **25**: 387-403.

World Bank (2005). Mexico Country Brief.

Zimmer, Z. (2003). "A further discussion on revisiting the classification of household composition among elderly people." Journal of Cross-Cultural Gerontology **18**: 247-250.

Zissimopoulos, J. (2001). Resource Transfers to the Elderly: Do Adult Children Substitute Financial Transfers for Time Transfers? Working Paper. Santa Monica, RAND**:** 26.

Zúñiga, E. and C. Gomes (2002). Pobreza, curso de vida y envejecimiento poblacional en México. La situación demográfica de México, 2002. México, Consejo Nacional de Población**:** 141-153.