Living Arrangements and the Role of Caregivers among the Elderly in Latin America

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Abstract

Using the SABE[1] data set, this paper describes the support that the elderly receive from family members, siblings, friends and the community where they live in four Latin American cities. It also reports the activities that the elderly do for their family members. In the four distinct cities included in the study, we find similar trends in terms of living arrangements, the role of caregivers and the type of activities that elderly people provide for their family members. Our findings indicate the elderly without any support tend to be in better health and socio-economic conditions than elderly persons with family or community support; this is likely because healthier individuals need less assistance. Surprisingly, most of the elderly without any help from family members do not receive support from the community either. Daughters inside the household are the most likely caregivers and receive most assistance from the elderly in return. The exchange of services and activities within the household reflects the higher gains that female caregivers receive from taking care of elderly relatives, or the lower wages and consequently their lower cost of providing care. Among the providers of money, sons and daughters share similar characteristics. A significant number of caregivers are in the productive years of their life. A discussion of the policy options to increase elderly health and to improve the role of caregivers is included.

I. Introduction

As the Latin American public becomes more aware of the economic, financial and social implications of the rapid demographic transition occurring in these economies, there is increased pressure to reform the network of health and social services that provide support to seniors. Evidence suggests that the populations of Latin American countries are aging at a faster rate than those of some developed countries (Shrestha 2000). Regional trends track global ones, but some important differences are worth noting. For example, in 2000, 5.5% of the region's population was over the age of 65. In the rest of the world, however, 6.9% of the population was over the age of 65 (Arriagada 2003). The percentage of elderly is projected to increase in Latin America to 6.5% by the year 2010 and to 8.5% by 2020, growing much faster than the average for the rest of the globe. In addition, the expected growth in the proportion of the region's population over the age of 80, the "very elderly," is faster than the global trend (Arriagada 2003). Rapid improvements in survival rates for this age group will have a tremendous impact on future medical care expenditures, which in time will force governments to develop policies to meet future demand.

Argentina and Chile, two of the countries included in this study, have expected growth rates in their elderly populations (as a proportion of their total population) that not only exceed global growth rates for this age group, but also exceed the average growth rate for all of Latin America. According to Arriagada (2003), by 2010, when 6.5% of the region's population is expected to be age 65 or older, the percentage in Argentina is estimated to reach 10.4%, and in Chile 8.8%. Even more significant, however, is the expected several-fold increase in the proportion of individuals over the age of 80. By 2020, for example, it is projected that 2.8% and 2.4% of Argentineans and Chileans, respectively, will be in this age group. The expected percentage for the other nations in this region averages only 1.8%. Currently there are approximately 50 persons older than 65 years of age for every 100 children under 5 years of age in Argentina and Chile, and these figures are expected to increase dramatically. By the year 2025, it is projected that in Argentina and Chile there will be 87 seniors for every 100 children under 5 (Arriagada 2003).[2]

The needs of these rapidly growing elderly populations, in particular the needs of the very elderly, may force these nations to develop new systems geared toward providing seniors with financial support, formal and informal social support, and healthcare. How governments in Latin American economies decide to distribute the costs of this rapid aging process among different members of society will affect fundamental economic and social changes in the future. Some of the suggested policies to handle this situation involve shifting part of these costs back to families.

The widespread pattern of co-residence among the elderly and adult children in this region may be viewed as an asset that could be utilized to redistribute this burden. Yet as the average family size becomes smaller, the number of relatives available to provide care for the elderly also declines. This reduction in the pool of available caregivers will be worsened by the increase in competing roles that caregivers will have in the future. Caregivers for the elderly often provide care at the expense of other choices in areas such as type of occupation, leisure, career prospects, education, income and pension benefits. This will be particularly relevant for women as their participation in the formal labour force increases and as they work more often outside their home.

Traditionally, the role of women as caregivers for the elderly has been regarded as a critical source of support for seniors. It is well documented that females assume a greater burden of caregiving activities for the elderly than males do (Stone et al. 1987; Conway-Giustra et al. 2002). For instance, Bos and Bos (2007) report that for 93% of all patients who had a stroke and returned home with some level of dependency, the caregivers were female. The role of women in the labour force is expected to increase rather than decline in importance in the years to come (Arriagada 2003) because of longer periods of low fertility. This increasing role of women's labour force participation in the economic growth of these countries may create conflicts with their ability to continue providing informal care for the elderly.

Using data on informal caregivers in Britain, Heitmueller and Inglis (2004) report that caregivers are less likely to participate in the labour force. Although this analysis was performed using data for

Britain, the findings could be relevant to developing countries, given the longitudinal nature of the data used in this analysis.[3] According to Heitmueller and Inglis's findings, only 14% of working-age individuals are caring for sick, disabled and elderly relatives and friends. The vast majority are women, and over 76% of all caregivers are combining work and caring responsibilities. In addition, caregivers who are not working when the caring activities end are less likely to re-enter the labour market. Lastly, adjusting for individual characteristics, pay differences between informal caregivers and non-caregivers could be around 6%, and this gap could be larger for women. Both the greater difficulty for older individuals to re-enter the labour force and the lower wages that caregivers will receive once they find a new job may reduce the likelihood that a female decides to quit her job to care for elderly relatives.

As women who work are less able and less willing to care for the elderly, more private and government expenditures will potentially be needed to substitute for this care. However, if the need to care for the aging population draws women out of the labour market, this in time could hurt their ability to save for retirement and the overall ability of these societies to sustain economic growth in the future. Additionally, human capital deterioration, including mental health and medical costs that result from the stress of providing care, is a serious concern (Van den Berg and Ferrer-i-Carbonell 2004). In particular, women may have a higher level of depression and in general a lower level of well-being than men (Pinquart and Sorensen 2006). On the other hand, assistance to the elderly may have a positive influence on the life of caregivers, their sons and daughters, and their relationships (Donelan et al. 2002). Examining these incentives and exploring alternatives in which women could simultaneously remain at their jobs and still provide care for the elderly are serious policy concerns that demand careful analysis.

Alternatively, one could foresee a greater role for men as caregivers within families as a consequence of changes to family structure driven by the demographic transition in the region. Thus, it is important to understand the main differences between the sexes during middle age in terms of the decision to work and to provide care for the elderly.

Lastly, informal care may be less expensive and more effective for the elderly than formal care. Minor changes in informal care could translate into lower demand for more costly formal care. For instance, in the case of the US, Van Houtven and Norton (2005) report that over the 2-year recall period, a 10% increase in the number of users of informal care leads to a 0.87 percentage point decline in the likelihood of home healthcare use and a 2-night reduction in nursing-home use. These authors also report that informal care reduces hospital use and physician visits. According to this study, informal care is a net substitute for formal healthcare expenditures. Hence there is a clear tradeoff for policy makers to develop alternatives that enhance the provision of informal care in these economies.

In summary, our analysis addresses the following three concerns:

(a) What are the demographic and socio-economic characteristics of the elderly without any support network?
(b) The elderly may underestimate the cost of living alone due to their inability to process information related to the transition into formal care use and the low rate of discount associated with long-term health consequences. What are the characteristics of the caregivers (both inside and outside the household) who provide care for the male and female elderly? What are the main services/tasks that female and male caregivers provide for the elderly?
(c) Are the elderly returning the care?

II. Theoretical Framework and Previous Empirical Findings

II.A. Theoretical Framework on Caregiving Activities for the Elderly

According to the literature females are more likely than males to provide informal care to their

elderly parents (see for example Finley 1989; Lee et al. 1993; Neal et al. 1997; Iacovou, 2000; Sarkisian and Gerstel, 2004). In an extensive review of the literature, Pinquart and Sorensen (2006) reported that females provide more caregiving hours, help with more caregiving tasks and assist with more personal care than males. In addition, they found the elderly who receive help from females have more health problems.

Five hypotheses have been advanced to explain the gender gap in the provision of informal care for the elderly: the cost-of-time or time-availability hypothesis, the socialization hypothesis, the external-resources hypothesis, the specialization-of-task hypothesis and the gender-of-parents hypothesis (see Finley 1989 and Lee et al. 1993). Each of these hypotheses is likely to be a factor in explaining the individual's decision to provide care to an elderly person.

In the first hypothesis, the assumption that informal care is more likely to be provided by females exists because they have less competing demands on their time for family activities than males do. Due to lower wages, females present a lower cost of providing care to an elderly. Empirical evidence suggests some problems with this hypothesis.

Regarding the second hypothesis, informal care is the consequence of gender-role socialization rather than a negotiation process related to the availability of time. Informal care is more the consequence of attitudes toward responsibility for elderly parents. An indirect test of this hypothesis could be of particular relevance in the context of Latin American countries. In particular, if gender-role socialization is found to be the case, working women and women outside the labour force should provide similar types and levels of informal care. Alternatively, if results suggest that working women are less likely to provide informal care than non-working women, they lend credence to the cost-of-time hypothesis. Comparing married and non-married women and their roles as informal caregivers could also shed some light regarding the second hypothesis.[4]

The third hypothesis, the external-resources hypothesis, asserts that relative resources obtained externally (such as income, education and career performance) determine the division of labour in the provision of informal care to the elderly. For instance, as the education of daughters becomes more similar to the education of sons, one will see a convergence of the responsibility to care for the elderly.

The fourth hypothesis suggests that females may be more efficient at providing informal care for the elderly than males are. In this case, the type of activities for the elderly could differ between males and females because of a process of specialization among family members.

Lastly, Lee et al. (1993) suggest that the gender of the caregiver depends on the gender of the parents requiring care. In particular, females are more likely to provide care to their mothers and males to their fathers. Therefore, since females report being sick and disabled more often than males and live longer, daughters would be more likely than sons to provide care for elderly parents.

Two additional hypotheses have been suggested to explain gender gaps in caregiving activities: differential gains for caregivers from taking care of the parents, and the principle of substitution (Shanas 1979). Regarding the former, elderly parents also contribute back in exchange for their offspring's caregiving activities. If this is the case, sons and daughters may receive different marginal benefits from taking care of aging parents. Variations in the amount and types of care could be due to differences in the value of these marginal gains. The second hypothesis, the principle of substitution, assumes that the choice of caregiver follows a hierarchical pattern. The established pattern of care is for the older adult's spouse to be the primary caregiver, with an adult daughter as the secondary caregiver should the spouse be absent. Without the availability of either, another family member assumes the primary caregiver responsibilities. Elderly individuals without family members must rely on community aid.

These previous hypotheses come mainly from work in sociology and social work. During the past 10 years, the economic literature has developed strategic models of bargaining within the family unit to predict the child's decision to provide care to an elderly parent. See, for example, Hiedemann and Stern (1999) and Enger and Stern (2002). Interestingly, most of the predictions from these economic models fit some of the previous hypotheses.

On the empirical side, the availability of long panel data and the possibility of finding good instruments to control for the endogeneity of some of the child and parent variables have been the major challenges to understanding the dynamics behind the child's decision to care for elderly parents. Sterns (1995), using panel data for the US, verifies some of these hypotheses after controlling for the endogeneity of some child variables, such as distance and working status. His findings suggest a moderate to low effect of the elderly parent's sex, age, race and health, and the caregiver's sex and marital status. Yet the parent's marital status and the child's distance to the parent's home have a large effect on the decision to provide care. After controlling for endogenous factors, work status is no longer significant in the child's decision to provide care (Sterns 1995).

In this report, due to insufficient data, we will not be able to test any of these hypotheses directly. In some instances, we will infer from the empirical findings the relevance of explanations. Our primary aim is to describe the living arrangements of the elderly in these countries and examine gender differences that we observe in the data regarding the help and support that the elderly receive from family members and friends.

II.B. Previous Empirical Findings

In spite of the relevance of these issues, few analytical papers explore the links between the health of the elderly population and the role of caregivers in Latin America. In this section, we will summarize some findings that have relevance to the current analysis. Although these findings are for Sao Paulo (Brazil), the general characteristics reported for the city are similar to those of the other cities included in this study. Most findings reported in this section are from a study by Saad (2002) using the SABE[1] data set.

In general, the elderly in this city report having an important family network that could be an asset and a source of informal care. For instance, in Sao Paulo, 57% of the elderly report having three or more living children. Regarding their living arrangements, 13% of the elderly live alone, 27% with their spouse, 40% with unmarried children and 11% with married children. This clearly reflects the relevance of informal care for these seniors. The elderly living alone are more likely to be unmarried males with fewer living children. Interestingly, elderly people living alone report higher educational levels and income than those not living alone.

A large proportion of the elderly in these economies receive some help from family members within the household. In Sao Paulo, 61% of seniors receive monetary transfers, while 78% receive help in the provision of home services. Clearly, these transfers from family members could be an important determinant of the health and medical care consumption of seniors in this country. Likewise, 49% of the elderly provide monetary transfers to family members within their household. As explained below, this interaction between the elderly and other family members influences the probability that an individual will provide informal care for the elderly. Lastly, household members are more likely to provide care than members outside the household. Household members are also more likely to receive monetary transfers from the elderly.

In this paper, we describe in further detail the characteristics of the elderly living alone and not receiving any support. We then move to analyze the characteristics of those receiving support from family members or friends. Lastly, we explore the caregivers' characteristics and the type of help they provide to the elderly.

III. Methods and Data Description

III.A. Methods

We first proceed to describe the elderly person's living arrangements and the individual characteristics of family members and friends providing care. This descriptive analysis is done separately for male and female elderly using the SABE data set for the following four cities: Buenos Aires (Argentina), Sao Paulo (Brazil), Santiago (Chile) and Ciudad de Mexico (Mexico). In this report, we use the country's name to refer to each of these cities.

The SABE data set collected information about the gender, age, family relationship, literacy, education, marital status and working condition of the caregivers, as well as whether they live inside or outside the household. From this analysis, we compare the individual characteristics of family members and friends who provide care with the characteristics of those who do not. For those who identify themselves as principal caregivers, the SABE data set provides additional information that will be analyzed in this project.

This analysis is done separately for male and female caregivers so that we could gain an initial idea about whether females are more likely than males to provide care to their aging parents. Notice that some of the hypotheses discussed above regarding differences in gender and caregiver roles could be indirectly evaluated at this level. For instance, we could determine if an employed son is less likely to provide care for his parent than an employed daughter. We could also evaluate differences among caregivers while holding gender constant. For example, we could ask if married females are less likely than unmarried ones to provide care for the elderly. Yet, with the available data, we could only establish statistical association between the determinants of caregiving activities rather than establishing cause–effect relationships between the individual's decision to provide care and his or her characteristics.

Next, we investigate the types of activities that caregivers provide for the elderly and whether this help is monetary or non-monetary (e.g., preparing meals, helping with transportation and assisting with activities at home). We perform this analysis separately for male and female caregivers. In sum, from this analysis we could gain some knowledge about the relevance of the specialization-of-task hypothesis. In addition, the SABE data set allows one to describe the type and frequency of activities that the elderly perform for other household members. Therefore, in this part of the analysis, we evaluate the monetary and non-monetary feedback that occurs within the household from the elderly to family members. Some of these results could be consistent with the differential-gains hypothesis.

In sum, from this descriptive analysis, we gain valuable insights that may inform policy makers about the design and implementation of policies that affect elderly populations in these countries.

III.B. Data Source and Relevance of the Data

The SABE database is a cross-sectional survey that collects information about the health status and health conditions of the elderly population in seven representative cities in Argentina, Barbados, Brazil, Chile, Cuba, Mexico and Uruguay.[5] The survey includes only representative samples of individuals older than 60 years of age living in urban areas. The weighting procedure used in each city is fully described in the User's Manual for the SABE databases published by the Pan American Health Organization (2004). In addition, the sampling design accounts for potential problems of under-representation in the final sample of individuals over 80 years of age, as well as institutionalized individuals. Information included in the survey is similar to that provided by the Health and Retirement Survey (HRS) in the United States.

Key features of the SABE survey make it particularly suitable for answering the questions this paper posed. First, it records information about individual characteristics of each person living in the household with the elderly. The survey also contains detailed information describing family and friends who provide care for the elderly who live outside the household. It also provides information about tasks that caregivers supply for the elderly. Finally, in each country included in the survey, similar questionnaires were used, facilitating a comparative analysis.

III.B.1. Measurement of Caregiving Activities in the SABE Database

Of particular relevance for this analysis are the battery of questions that the survey includes regarding the caregivers' characteristics and the activities that caregivers provide for elderly relatives. In the section on the social support network and transfers, the survey captures the main individual characteristics of family members within the household as well as those of children who do not live at home, brothers and sisters outside the household, and other family and friends.[6] The survey includes questions about the help that each of the individuals inside and outside the household give to the

elderly. It also identifies the transfers and help that the seniors receive from the community. As pointed out before, for each caregiver inside or outside the household, one is able to identify the relationship with the elderly person, the gender, age, marital status, literacy, education level and working status.

Regarding the type of activities that the caregiver provides, the survey reports whether he or she helps by giving money, providing services such as transportation, housework, and so forth, or giving things that the elderly need, such as food and clothing. The respondent was able to provide up to three choices. So one may have among the caregivers someone who provides all three activities, just two, or only one.

It is important to clarify that the respondent was not asked to rank which activity was the most important, or to quantify the magnitude of help provided. Given this limitation, we created three new dummy variables to identify the caregivers: money, which equals 1 if the household member was reported as giving money as first, second or third choice; services, equal to 1 if the household member was reported as giving services as first, second or third choice; and things, equal to 1 if the household member was reported as giving things as first, second or third choice. We identify a caregiver as an individual who provides either money, services or things (i.e., someone who reports any of the new variables equal to 1). We code as non-caregivers all individuals who do not provide any type of assistance.

The survey also includes a question regarding the frequency with which the caregiver provides help. In this case, frequency is in terms of times per period (week, month and year). Since the survey does not ask about the magnitude of help, this question was of little use. For instance, one may observe a household member who provides an amount of money once a month that is greater than that from the member who provides money four times a week. In sum, given the set of questions in the SABE questionnaire, we are not able to rank which activity is the most important for each caregiver.

Lastly, the instrument includes a similar set of questions to examine help that family members inside or outside the household receive from the elderly person. In this case, the survey also captures whether the elderly person provides childcare. To analyze this question, we create dummy variables for money, services, things and childcare. Once we identify the elderly who provide any type of help, we correlate these variables with information regarding the relationship between the elderly person and family members or friends who are receiving help. We use the following categories: wife, husband, daughter, son, other female relatives, other male relatives, non-relative females and non-relative males.

III.C. Initial Description of Household Characteristics

Table 1 describes the characteristics of households where at least one member is an elderly person for all the countries in this research. Findings suggest that the average elderly person in these countries lives with more than three people in the household. Mexico reports the highest number of household members (4.2), while Argentina reports the lowest (2.7). Interestingly, in most cases, an elderly person is head of the household. For instance, in Brazil, an elderly person is head of 89% of households. This figure reaches 90% in Argentina.

The average age of household members fluctuates between 46 and 61 years. Mexico shows the youngest composition of households. The typical household with an elderly resident has on average almost two females members. In all cities included in the study, the proportion of females in the household is around 50%.

In addition, each household in these countries reports having at least two literate members. The percentage of households with at least one college-educated member varies significantly. In Brazil the figure is 7.4%, while Mexico has the highest proportion at 28%.

Lastly, in Chile 63% of households included in the study have at least one married member. Interestingly, a similar proportion is reported in Brazil and Mexico, while Argentina reports the lowest proportion, 55%. In all countries with the exception of Argentina, at least one household member is employed or seeking employment.

Table 1. Brazil, Argentina, Mexico, and Chile

Household Characteristics Weighted Statistics	Brazil Mean	Argentina Mean	Mexico Mean	Chile Mean
1) Average number of household members	3.139 (0.071)[1]	2.696 (0.049)	4.207 (0.087)	3.931 (0.087)
2) Average number of households where an elderly is the head of the household	0.886 (0.010)	0.903 (0.009)	0.753 (0.011)	0.874 (0.013)
3) Average age of the household members	55.791 (0.694)	61.32 (0.531)	45.56 (0.581)	51.52 (0.772)
4) Average number of females in the household	1.730 (0.039)	1.501 (0.032)	2.378 (0.054)	2.105 (0.034)
5) Average number of literate individuals in the household	1.910 (0.061)	1.589 (0.045)	2.862 (0.069)	2.683 (0.071)
6) Fraction of household members with at least one member with college education	0.074 (0.007)	0.098 (0.062)	0.278 (0.015)	0.169 (0.032)
7) Fraction of households with at least one member who is married	0.613 (0.006)	0.551 (0.016)	0.646 (0.015)	0.629 (0.019)
8) Average number of household members employed or seeking employment	1.095 (0.052)	0.785 (0.032)	1.633 (0.051)	1.241 (0.049)

1) Standard error given in parenthesis.

IV. Results

In this section, we answer the three questions that we posed at the beginning of the paper. For each, we present results in the following order: Sao Paulo, Brazil; Buenos Aires, Argentina; Santiago, Chile and Ciudad de Mexico, Mexico. We then summarize the common findings in each city. Although we discuss results for all countries in the analysis, in the following section we show results only for Brazil. Similar tables that include specific findings for the remaining countries in the study are available on request from the authors.

IV.A. What are the demographic and socio-economic characteristics of the elderly without any support network?

Table 2 summarizes the results for Brazil. Interestingly, the elderly characteristics by support network are very consistent across countries included in the study when one compares the group of elderly not receiving any support from members within or outside the household. The group of elderly receiving the least support reports the highest functional self-reported health status, ADL index and IADL.[7]

Furthermore, not only is their functional health better, but they also show higher income and asset levels and more education than the other two groups of elderly receiving some support. Although the average age is very similar in all groups (see Table 2), members of this group are more likely to be male. This finding is consistent in all countries except Argentina.

IV.B. What are the characteristics of the caregivers (both inside and outside the household) who provide care for the male and female elderly? What are the main services/tasks that female and male caregivers provide for the elderly?

In Brazil (Table 3), caregivers within the household who provide money are more likely to be male,

around 49 years of age,[8] working and with more education than individuals who are not providing money. In addition, providers of money within the household are more likely to be married than household members who are not providing money. Findings indicate that providers of services are more likely to be female, older and less educated than household members not providing services.

Table 2. Brazil

Elderly demographic, socio-economic, and baseline health characteristics by support network Weighted Statistics					
	GROUP 1[2]		GROUP 2[3]		GROUP 3[4]
	Receiving any support within the household [5]		Among the 159 elderly receiving support from children, siblings or friends		Among the 74 elderly receiving support from the community
	Yes (1,650) Mean	No (159) Mean	Yes (85) Mean	No (74) Mean	No (74) Mean
Number of members in the household	3.55 (0.070)	2.654 (0.092)	2.376 (0.102)	2.946 (0.160)	2.965 (0.162)
Age of the elderly	69.101 (0.392)	67.576 (0.667)	68.102 (0.879)	67.026 (0.759)	66.877 (0.768)
Gender (1= female)	0.558 (0.012)	0.568 0.058	0.616 (0.073)	0.518 (0.066)	0.507 (0.066)
Years of education[6]	1.335 (0.060)	1.641 (0.164)	1.587 (0.190)	1.711 (0.220)	1.738 (0.229)
Total wealth[7]	352.371 (7.423)	401.2 (12.737)	427.5 (20.3)	373.0 16.8	373.1 (17.0)
Self-reported health status[8]	2.506 (0.083)	2.653 (0.083)	2.614 (0.145)	2.693 (0.094)	2.695 (0.096)
ADL index[9]	6.799 (0.092)	7.158 (0.219)	7.385 (0.246)	6.911 (0.349)	6.919 (0.353)
IADL index[10]	13.523 (0.104)	14.331 (0.163)	14.332 (0.147)	14.330 (0.260)	14.317 (0.265)

1) Standard error given in parenthesis.
2) Group 1 includes all elderly receiving support from inside the household.
3) Group 2 includes the elderly only receiving support from outside the household from children, siblings or friends.
4) Group 3 includes the elderly only receiving support from the community.
5) Support refers to any help in money, services, things or others.
6) Years of education was code 1 = elementary, 2 = secondary, 3 = technical, 4 = college.
7) Wealth is based on price index of assets in the household adjusted by household size.
8) Self-reported health status was coded 5 = excellent, 4 = very good, 3 = good, 2 = fair and 1 = poor.
9) ADL is an indicator from 0 to 10 (0 = worst condition).
10) IADL is an indicator from 0 to 15 (0 = worst condition).

Among providers of money within the households (Table 4), females are younger, better educated, more likely to be working and less likely to be married than males who provide money. For comparisons of male and female providers of services and things, results suggest smaller differences. This

Table 3. Brazil

Caregiver demographic and socio-economic characteristics by provision of money, services, and things Weighted Statistics												
	Money[1]				Services[2]				Things[3]			
	Yes		No		Yes		No		Yes		No	
	Mean	Std err	Mean	Std err	Mean	Std err	Mean	Std err	Mean	Std err	Mean	Std err
I. Caregivers within the household (n=3,500)	**1,405**		**2,095**		**2,269**		**1,231**		**1,569**		**1,931**	
Gender (females=1)	0.432	(0.018)	0.650	(0.015)	0.656	(0.011)	0.388	(0.019)	0.520	(0.016)	0.586	(0.014)
Age[6]	48.692	(1.135)	36.981	(1.105)	47.737	(0.828)	31.866	(1.186)	49.002	(0.891)	36.638	(1.090)
Literacy[4]	0.948	(0.009)	0.914	(0.010)	0.932	(0.008)	0.923	(0.010)	0.956	(0.007)	0.906	(0.010)
Level of education[7]	1.918	(0.062)	1.631	(0.055)	1.725	(0.050)	1.832	(0.074)	1.881	(0.057)	1.660	(0.059)
Marital status[9]	0.448	(0.021)	0.480	(0.016)	0.509	(0.015)	0.357	(0.016)	0.510	(0.021)	0.424	(0.015)
Work status[8]	0.704	(0.021)	0.466	(0.022)	0.530	(0.017)	0.694	(0.021)	0.675	(0.020)	0.489	(0.018)
II. Caregivers outside the household: children (n=1,689)	**836**		**853**		**551**		**1,138**		**803**		**886**	
Gender (females=1)	0.524	(0.024)	0.612	(0.024)	0.587	(0.035)	0.557	(0.025)	0.624	(0.024)	0.517	(0.023)
Age[6]	40.487	(0.604)	41.591	(0.775)	41.744	(0.917)	40.676	(0.596)	41.551	(0.755)	40.542	(0.644)
Level of education[7]	2.303	(0.103)	1.951	(0.121)	2.109	(0.102)	2.149	(0.113)	2.116	(0.108)	2.155	(0.107)
Marital status[9]	0.862	(0.018)	0.868	(0.021)	0.833	(0.019)	0.879	(0.019)	0.859	(0.018)	0.871	(0.018)
Work status[8]	0.797	(0.024)	0.716	(0.019)	0.697	(0.027)	0.785	(0.022)	0.776	(0.019)	0.743	(0.026)
Location[10]	0.812	(0.028)	0.887	(0.015)	0.926	(0.020)	0.814	(0.021)	0.877	(0.021)	0.824	(0.020)
III. Caregivers outside the household: siblings (n=246)[5]	**73**		**173**		**32**		**214**		**88**		**158**	
Gender (females=1)	0.515	(0.081)	0.631	(0.049)	0.573	(0.126)	0.601	(0.040)	0.669	(0.048)	0.549	(0.050)
Age[6]	65.157	(0.582)	63.286	(0.925)	61.113	(1.618)	64.451	(0.961)	61.415	(1.217)	65.432	(0.035)
Marital status[9]	0.668	(0.071)	0.558	(0.058)	0.572	(0.111)	0.596	(0.054)	0.626	(0.089)	0.570	(0.051)
Work status[8]	0.275	(0.061)	0.375	(0.046)	0.375	(0.082)	0.340	(0.044)	0.433	(0.061)	0.287	(0.048)
Location[10]	0.749	(0.066)	0.800	(0.051)	0.940	(0.040)	0.753	(0.047)	0.880	(0.039)	0.720	(0.057)

1) Money was coded 1 if the household member was reported as giving money as a first, second or third option.
2) Services was coded 1 if the household member was reported as performing services as a first, second or third option.
3) Things was coded 1 if the household member was reported as giving things as a first, second or third option.
4) Literacy was not reported for any caregiver outside the household.
5) Education was not reported for siblings or other caregivers.
6) Individuals younger than 12 years of age were not counted as caregivers .
7) Education was coded 0 = no school, 1 = elementary, 2 = secondary, 3 = technical and 4 = college.
8) Working Status was coded 0 = non-working, 1 = working.
9) Marital status was coded 0 = non-married,1 = married.
10) Location was coded 0 = living outside the city, 1 = living within the neighbourhood or in the same city.

may reflect the external-resources hypothesis, which predicts that working women are less likely to provide services such as transportation and housekeeping and more likely to provide money. This imitates the patterns of male assistance to the elderly that are conditional on working. One may expect the convergence of roles among male and female caregivers to continue as women remain in the labour force for longer periods and their wages become an important source of household income. The provision of informal care to elderly parents would change from providing service activities toward providing money.

Other caregivers outside the household who are the children of the elderly and provide money are more likely to be female, working and better educated than caregivers within the household. Child caregivers who provide money are less likely to be living in the same neighborhood or city as their parent than child caregivers who provide services. Checkovich and Stern (2002) show empirical evidence that distance from the parent, among other factors (e.g., gender, work status, number of siblings, occupation and marital status) influences the individual decision to provide care for the elderly. In particular, the farther away a child lives, the less likely he or she is to provide care for the parents. In service activities, caregivers are more likely to be female, outside the labour force and with fewer years of education. Male and female children who provide money are of similar age, but females are less well educated, less likely to be married and less likely to be in the labour force. This same pattern presents itself for providers of services and things. Of particular relevance would be the marital and work status of child caregivers, where females are far less likely to be married or working than males. Overall, these results fit the predictions from the time-availability hypothesis. In other words, females are more likely to provide services to the elderly since they have fewer competing demands on their time, given their employment and marital status.

Regarding siblings who provide services or things to the elderly, caregivers are more likely to be females who live in the same neighborhood or city as their brother or sister. Among sibling providers of money, services and things, males are more likely to be married than females.

As in Brazil, caregivers in Argentina who live within the household and provide money are more likely to be married males around 52 years of age, with more education and higher employment status than individuals who are not providing money. Providers of services within the household are more likely to be unemployed females and older than those who do not provide services. Lastly, providers of things are more likely to be married, older and with more education. Among providers of money within the household, females are younger, better educated and less likely to be married than males who provide money. Female providers of services and things within the household are more likely to be outside the labour force than males who provide the same services.

Unlike their counterparts in Brazil, child caregivers in Argentina outside the household who provide money have very similar characteristics to those of non-providers. Surprisingly, education rates are lower for children who provide money. In service activities, caregivers are more likely to be females outside the labour force, with fewer years of education.

Among providers of money in Argentina, female children are more educated and less likely to be married than male children. Of particular relevance would be the work status of child caregivers providing money, services and things, where females are far less likely to be working than males. Concerning siblings who provide services or things to the elderly, caregivers are more likely to be females living in the same neighborhood or city as their brother or sister.

In Chile, most caregiver characteristics follow patterns presented for Brazil and Argentina. Here, we will highlight only where these patterns differ.

In particular, providers of money within the household are less likely to be married than household members who do not provide money. Among these providers of money, males and females have similar education levels. As in Argentina, female providers of services and things in Chile are far less likely to be working than males providing these same services.

Child caregivers outside the household are more likely to be female. Chile presents a unique finding, where female siblings providing money are more likely to be working than males. Other

caregivers outside the household are more likely to be male for the provision of money, but female for the provision of services or things.

In Mexico, we also observe a similar pattern to that described for Brazil and Argentina. A comparison of males and females within the household who provide services and things reveals that females

Table 4. Brazil

Socio-economic characteristics of the providers of money, services, and things by gender Weighted Statistics												
	Money[1]				Services[2]				Things[3]			
	Male		Female		Male		Female		Male		Female	
	Mean	Std err	Mean	Std err	Mean	Std err	Mean	Std err	Mean	Std err	Mean	Std err
I. Caregivers within the household	**777**		**628**		**759**		**1,510**		**746**		**823**	
Age[6]	51.418	(1.376)	45.087	(1.222)	47.374	(1.071)	47.929	(0.924)	51.821	(1.166)	46.387	(0.994)
Literacy[4]	0.935	(0.012)	0.965	(0.009)	0.918	(0.010)	0.958	(0.008)	0.958	(0.008)	0.956	(0.010)
Level of education[7]	1.813	(0.070)	2.052	(0.087)	1.703	(0.046)	1.765	(0.079)	1.768	(0.070)	1.985	(0.066)
Marital status[9]	0.550	(0.030)	0.316	(0.024)	0.520	(0.023)	0.503	(0.017)	0.613	(0.028)	0.415	(0.025)
Work status	0.682	(0.023)	0.732	(0.030)	0.638	(0.024)	0.473	(0.020)	0.704	(0.023)	0.647	(0.028)
II. Caregivers outside the household: children	**400**		**436**		**211**		**340**		**315**		**488**	
Age[6]	40.646	(0.707)	40.338	(0.656)	41.608	(1.219)	41.849	(1.078)	41.811	(0.955)	41.383	(0.744)
Level education[7]	2.400	(0.146)	2.214	(0.110)	2.382	(0.168)	1.907	(0.089)	2.078	(0.157)	2.138	(0.108)
Marital status[9]	0.906	(0.023)	0.823	(0.025)	0.902	(0.026)	0.785	(0.030)	0.922	(0.021)	0.822	(0.023)
Work status[8]	0.964	(0.011)	0.646	(0.042)	0.937	(0.021)	0.528	(0.032)	0.962	(0.012)	0.664	(0.028)
Location[10]	0.823	(0.036)	0.802	(0.030)	0.891	(0.040)	0.951	(0.019)	0.894	(0.032)	0.866	(0.027)
III. Caregivers outside the household: siblings5	**37**		**36**		**16**		**16**		**31**		**57**	
Age[6]	65.183	(2.208)	65.135	(2.044)	60.444	(3.913)	61.646	(1.622)	60.401	(2.556)	61.891	(1.282)
Marital status[9]	0.789	(0.081)	0.554	(0.125)	0.739	(0.160)	0.447	(0.183)	0.825	(0.085)	0.527	(0.122)
Work status[8]	0.298	(0.103)	0.253	(0.068)	0.342	(0.148)	0.400	(0.139)	0.569	(0.116)	0.367	(0.085)
Location[10]	0.782	(0.071)	0.719	(0.117)	0.860	(0.081)	ID[11]	ID[11]	0.886	(0.073)	0.877	(0.048)

1) Money was coded 1 if the household member was reported as giving money as a first, second or third option.
2) Services was coded 1 if the household member was reported as performing services as a first, second or third option.
3) Things was coded 1 if the household member was reported as giving things as a first, second or third option.
4) Literacy was not reported for any caregiver outside the household.
5) Education was not reported for siblings or other caregivers.
6) Individuals younger than 12 years of age were not counted as caregivers.
7) Education was coded 0 = no school, 1 = elementary, 2 = secondary, 3 = technical and 4 = college.
8) Working status was coded 0 = non-working, 1 = working.
9) Marital status was coded 0 = non-married,1 = married.
10) Location was coded 0 =l iving outside the city, 1 = living within the neighbourhood or in the same city.
11) ID indicates insufficient data.

are less likely to be married or working than males. Interestingly, females providing money from within the household are less likely than males to be working. In addition, children outside the household who provide money are more likely to be male, and these males have more education than females providing money. Female child caregivers providing money are more likely to be married than male child caregivers who provide money. For the provision of money, services and things, male siblings are more likely to be working. Lastly, regarding siblings who provide care to the elderly, caregivers are more like to be males.

When one looks at the distribution of caregivers, as Table 5 illustrates, daughters are principle contributors of money, services and things in all countries. In Brazil and Mexico, daughters represent the largest share of caregivers in all categories of assistance – amounting to almost 30%. Chile is the only exception, where sons contribute the most, and daughters fall behind husbands in the provision of money, services and things. This may be a result of social practices, contradicting the socialization hypothesis stating females are socially more likely to provide informal care. Although daughters represent the largest share of caregivers, the difference in share between daughters and sons with respect to the provision of money is smaller than the difference with respect to services and things. In general, for services and things daughters play a larger role than sons do. Surprisingly, Levine et al. 2005 noted that in the US, young adult caregivers (aged between 18 and 25) are more likely to be males caring for an elderly relative than females. Most of these males care for an elderly female adult.

In summary, female caregivers who provide money tend to be more educated, less likely to be married and more likely to be in the work force than females who provide services and things. Stone et al. (1987) and Wakabayashi and Donato (2005) found similar results among females in the US. In particular, providing care for the elderly leads to reduced labour force participation as well as reduced weekly hours and annual earnings among those who are working. Additionally, in the US, Conway-Giustra et al. (2002) noted that due to the reduction in labour force participation, female caregivers in the US lose an average of $550,000 in lifetime wealth and $2100 annually in Social Security benefits. These US findings may indicate some changes that could take place in Latin American countries over the next two decades.

Moreover, using instrumental variable techniques, Ettner (1996) showed a large negative effect on the labour supply of both men and women who provide care for the elderly, with the effect of women being larger. Yet Doty et al. (1998) presented findings that contradict this negative relation between caregiving and labour force participation among females. According to their results, this conflict between employment and informal care happens within only a minority of caregivers, since the vast majority of primary caregivers decided to help their relatives when they were already in a stage of life beyond employment. This may be the case in our study, because the average age of caregivers in all countries is relatively high, around 45 years of age. In addition, Wolf and Soldo (1994) also provide evidence that there is no relationship between provision of elderly care and employment or conditional hours of work.

Finally, among providers of money within the household, females tend to be younger, better educated and less likely to be married than the males who provide money. Their labour force participation seems very similar to the working status of males. In the case of services and things, female caregivers tend to be less educated and less likely to be working than males providing services and things. In general, daughters play a larger role in services and things, while sons and daughters have a similar share in providing money. This distribution of activities may indicate a division of labour within the household. Basically, females specialized in activities such as preparing meals, housekeeping, transportation and providing clothes, where they could be more efficient than males.

IV.C. Are the Elderly Returning the Care?

As Table 6 shows, female relatives benefit from the largest share of elderly contributions. Significantly, daughters are the main beneficiaries of childcare in all countries. In Mexico, daughters are the greatest recipients of money, services and things. In Brazil, daughters receive the most services. In Chile, recipients of provisions are more likely to be sons. The largest recipient of things is actually female

relatives, but the distribution is more equitable and many relatives receive a share of between 15 and 20%. Wives of the elderly also receive notable contributions. In Brazil, wives receive the largest share of elderly support of money and things, and in Argentina, they receive the largest share of money and services. Overall, females are the main beneficiaries of elderly provision of money, services, things and childcare. These results may be consistent with the differential-gains-for-caregivers hypothesis, where females are more likely to provide care for the elderly than males because they receive more help from the elderly. The exchange of services and activities within the household reflects the marginal gains that female caregivers receive from taking care of elderly relatives.

Table 5. Brazil, Argentina, Mexico and Chile

Distribution of caregivers **Weighted Statistics**												
	Brazil			**Argentina**			**Chile**			**Mexico**		
	Money Mean[1]	**Services Mean[2]**	**Things Mean[3]**	**Money Mean[1]**	**Services Mean[2]**	**Things Mean[3]**	**Money Mean[1]**	**Services Mean[2]**	**Things Mean[3]**	**Money Mean[1]**	**Services Mean[2]**	**Things Mean[3]**
I. Caregivers within the household	**1,405**	**2,269**	**1,569**	**584**	**895**	**451**				**2,219**	**1,989**	**1,358**
Wife	0.089	0.242	0.136	0.125	0.223	0.222	0.109	0.107	0.155	0.035	0.122	0.138
	(0.009)[4]	(0.011)	(0.011)	(0.331)	(0.417)	(0.416)	(0.016)	(0.013)	(0.021)	(0.004)	(0.006)	(0.010)
Husband	0.246	0.123	0.194	0.217	0.135	0.113	0.189	0.213	0.206	0.232	0.120	0.169
	(0.015)	(0.007)	(0.011)	(0.413)	(0.342)	(0.317)	(0.014)	(0.014)	(0.020)	(0.010)	(0.007)	(0.011)
Daughter	0.267	0.264	0.285	0.233	0.199	0.235	0.197	0.113	0.102	0.300	0.332	0.293
	(0.018)	(0.013)	(0.015)	(0.423)	(0.400)	(0.424)	(0.013)	(0.011)	(0.008)	(0.011)	(0.001)	(0.013)
Son	0.232	0.131	0.181	0.242	0.148	0.164	0.226	0.271	0.248	0.297	0.160	0.193
	(0.022)	(0.012)	(0.015)	(0.429)	(0.356)	(0.371)	(0.016)	(0.011)	(0.018)	(0.012)	(0.011)	(0.013)
Other female relatives	0.072	0.125	0.090	0.080	0.164	0.144	0.170	0.113	0.113	0.047	0.156	0.107
	(0.010)	(0.011)	(0.011)	(0.272)	(0.371)	(0.352)	(0.013)	(0.014)	(0.014)	(0.006)	(0.011)	(0.010)
Other male relatives	0.085	0.087	0.104	0.098	0.120	0.118	0.095	0.152	0.152	0.082	0.086	0.087
	(0.008)	(0.007)	(0.009)	(0.297)	(0.325)	(0.322)	(0.018)	(0.014)	(0.014)	(0.006)	(0.008)	(0.009)
Non-relative females	0.005	0.011	0.008	0.002	0.001	0.004	0.008	0.009	0.008	0.003	0.007	0.003
	(0.003)	(0.004)	(0.005)	(0.041)	(0.033)	(0.067)	(0.002)	(0.003)	(0.004)	(0.002)	(0.003)	(0.001)
Non-relative males	0.004	0.003	0.001	0.002	0.003	0	0.003	0.008	0.009	0.002	0.001	0.004
	(0.002)	(0.001)	(0.001)	(0.041)	(0.058)	0	(0.002)	(0.003)	(0.002)	(0.001)	(0.001)	(0.003)
Domestic help	0	0.014	0.001	0	0.006	0	0	0.012	0.011	0.003	0.013	0.003
	0	(0.006)	(0.000)	0	(0.075)	0	0.000	(0.006)	(0.006)	(0.003)	(0.005)	(0.002)
Total column	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

1) Money was coded 1 if the household member was reported as giving money as a first, second or third option.
2) Services was coded 1 if the household member was reported as performing services as a first, second or third option.
3) Things was coded 1 if the household member was reported as giving things as a first, second or third option.
4) Standard error given in parenthesis.

Table 6. Brazil, Argentina, Mexico and Chile

Elderly provision of money, services, things, and childcare for members of the household Weighted Statistics	Brazil				Argentina				Mexico				Chile			
	Money[1]	Services[2]	Things[3]	Childcare	Money[1]	Services[2]	Things[3]	Childcare	Money[1]	Services[2]	Things[3]	Childcare	Money[1]	Services[2]	Things[3]	Childcare
	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean	Mean
I. Relationship with the elderly	**1,159**	**1,764**	**1,326**	**225**	**442**	**799**	**509**	**113**	**1,092**	**2,223**	**1,813**	**318**				
Wife	0.334	0.167	0.225	0.074	0.34	0.194	0.177	0.053	0.238	0.068	0.078	0.019	0.057	0.142	0.108	0.018
	(0.020)[4]	(0.010)	(0.014)	(0.027)	(0.472)	(0.396)	(0.382)	(0.225)	(0.014)	(0.006)	(0.007)	(0.009)	(0.011)	(0.014)	(0.012)	(0.011)
Husband	0.066	0.166	0.089	0.082	0.088	0.178	0.159	0.027	0.089	0.195	0.172	0.028	0.291	0.159	0.187	0.021
	(0.008)	(0.009)	(0.008)	(0.028)	(0.284)	(0.383)	(0.366)	(0.161)	(0.008)	(0.008)	(0.009)	(0.010)	(0.021)	(0.017)	(0.021)	(0.011)
Daughter	0.207	0.216	0.220	0.316	0.161	0.169	0.141	0.345	0.244	0.274	0.266	0.554	0.131	0.161	0.169	0.076
	(0.015)	(0.013)	(0.013)	(0.047)	(0.368)	(0.375)	(0.348)	(0.478)	(0.014)	(0.009)	(0.011)	(0.036)	(0.016)	(0.013)	(0.015)	(0.016)
Son	0.159	0.168	0.189	0.084	0.187	0.190	0.220	0.195	0.235	0.242	0.253	0.121	0.188	0.193	0.174	0.388
	(0.016)	(0.014)	(0.016)	(0.023)	(0.391)	(0.393)	(0.415)	(0.398)	(0.017)	(0.010)	(0.011)	(0.017)	(0.017)	(0.012)	(0.013)	(0.028)
Other female relatives	0.126	0.141	0.143	0.206	0.128	0.139	0.151	0.212	0.113	0.103	0.112	0.154	0.164	0.172	0.188	0.273
	(0.012)	(0.011)	(0.013)	(0.025)	(0.336)	(0.346)	(0.359)	(0.411)	(0.011)	(0.008)	(0.009)	0.025	(0.017)	(0.016)	(0.023)	(0.024)
Other male relatives	0.105	0.130	0.120	0.207	0.095	0.128	0.141	0.159	0.079	0.108	0.119	0.121	0.149	0.147	0.159	0.203
	(0.013)	(0.010)	(0.012)	(0.032)	(0.294)	(0.334)	(0.349)	(0.368)	(0.011)	(0.009)	(0.011)	(0.024)	(0.015)	(0.014)	(0.012)	(0.027)
Non-relative females	0.005	0.005	0.007	0.016	0	0	0	0	0.002	0.004	0.002	0	0.006	0.014	0.012	0.012
	(0.002)	(0.002)	(0.003)	(0.009)	0	0	0	0	(0.001)	(0.002)	(0.001)	0	(0.002)	(0.006)	(0.002)	(0.008)
Non-relative males	0.002	0.006	0.004	0.016	0.002	0.003	0.008	0.009	0	0.002	0	0	0.009	0.008	0.007	0.005
	(0.001)	(0.003)	(0.002)	(0.009)	(0.048)	(0.049)	(0.088)	(0.094)	0	0.001	0	0	(0.007)	(0.003)	(0.003)	(0.004)
Total column	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

1) Money was coded 1 if the household member was reported as giving money as a first, second or third option.
2) Services was coded 1 if the household member was reported as performing services as a first, second or third option.
3) Things was coded 1 if the household member was reported as giving things as a first, second or third option.
4) Standard error given in parenthesis.

V. Discussion of Findings

Our findings indicate that elderly people without any support tend to be better off than those with family or community support. However, selection factors may explain this result, as the healthier elderly may be choosing to live alone without needing any assistance. This may also suggest that privacy is a normal good among the elderly (Gruber and Wise 2001).

Living arrangements could be the consequence of elderly economic conditions or the result of family-specific characteristics. Although the health of individuals living alone is superior, the long-term costs associated with privacy could be substantially higher than expected from cross-section observations, due to information failure and time inconsistency.[9] In particular, in the long-run, seniors living alone may develop greater health and physical risks and reduced social interaction that may result in an increased likelihood of institutionalization and medical care use.

These results suggest that programs that explicitly and directly target the elderly living with family members could confer important social benefits. In addition, policies that promote maintaining maximum autonomy for the elderly should be favored over other alternatives, regardless of living arrangements.

Regarding caregivers, females are the most likely caregivers and receive the most assistance from the elderly in return. Among providers of money, sons and daughters share similar characteristics. However, among providers of services and things, females tend to be less educated, less likely to be in the labour force and more likely to be married than males. Location seems to be a factor that affects the decision to provide money, services and things for the elderly. Although the average age of female caregivers may suggest they are already out of the labour force, the data show significant numbers of caregivers are in the productive years of their life.

Despite the social benefits of caregiving activities, informal care may also affect caregivers' well-being and their current and retirement income. Polices to ameliorate the impact of caregiving activities should be considered in order to reduce the costs associated with informal care.

Because our findings suggest that the burden of caregiving activities appears more significant among females with low income and less education, direct government assistance could be justified. The extent to which lower current income for female caregivers may contribute to future poverty rates among elderly females is an issue that deserves further research and attention from policy makers. Payment for informal care as well as social security contributions for caregivers out of the labour force would reduce the negative income effect of informal care. Tax credit incentives for caregivers represent another alternative. Enforcing flexible work schedules for employed caregivers will help female caregivers remain in the labor force. Counselling for caregivers and training programs have proven to enhance the effectiveness of informal care for the elderly. Lastly, the introduction of a flat rate to subsidize care for the elderly, regardless of whether or not the care is formal or informal, would introduce consumer incentives that may increase efficiency in the allocation of resources to improve the health of the elderly in these countries. These cash transfers to caregivers could be supplemented with income transfers and benefit assistance programs directly targeted to the elderly. Lastly, offering tax credits to those individuals who buy long-term-care insurance could be another policy alternative.

VI. Concluding Remarks

Challenges in dealing with the fast-growing elderly populations in Latin American countries imply developing strategies in four different areas: (1) developing institutional and financial mechanisms to pay for future increasing long-term-care needs, (2) creating and promoting incentives to keep the elderly healthy and active in order to reduce future medical-care needs, (3) integrating the elderly into normal community life to reduce the financial burden on the working population and (4) organizing informal care services so that they more effectively serve the elderly's needs.

Three fundamental trends in these economies will shape how informal care will be provided in the future. First, male labour force participation is declining and female participation in these countries will likely have to increase. For women to provide a higher level of care, employers would

need to provide more flexible jobs attractive to females who have responsibilities at home. Second, if the level of long-term disabilities among the elderly is still increasing, the need for informal care at home would expand; in time this may require more part-time jobs for female caregivers. Lastly, if residence patterns continue to change toward fewer women living with their elderly parents or parents in-law, women will feel less obligated to leave their job to take care of elderly parents. Economic incentives to make caregiving activities more attractive may need to be in place to ameliorate this change in residence patterns.

Social and public policy reforms must be implemented soon to deal with the fast-aging population. If necessary changes are made now, daunting and costly tasks may not be necessary in the future. This study enriches our understanding of family caregivers for the elderly and suggests policy alternatives to complement the expansion of both direct medical care and pension benefits to support and protect the elderly population.

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Notes

1 The acronym SABE is short for Salud, Bienestar, and Envejecimiento – Health, Well-being, and Aging.

2 In Brazil, where the statistics closely resemble the region as a whole and the rest of the world, this figure is lower. Currently, there are 24 elderly Brazilians for every 100 children under 5.

3 They used the British Household Panel Study for the first 12 waves from 1991 to 2002.

4 A direct test for the socialization/ideology hypothesis would require data on attitudes toward providing help to the aging parents.

5 The SABE web page (www.ssc.wisc.edu/sabe) lists complete information on the agencies and researchers who participated in this project.

6 In the analysis, we include as caregivers members of the household older than 12 years old.

7 ADL and IADL are the Activities of Daily Living and Instrumental Activities of Daily Living indexes, respectively.

8 Similarly, Stone et al. 1987 reported that the average age of the caregivers in the US was 57.

9 The elderly may underestimate the cost of living alone due to the inability to process information related to the transition to formal care use and the low rate of discount associated with long-term health consequences.