Dôi Moi and the Elderly:

Intergenerational Support under the Strain of Reforms

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The main purpose of this chapter is to investigate the impact of *Dôi Moi* on the elderly and, more particularly, on intergenerational support. In all traditional societies, the family and immediate kin group have the predominant responsibility for taking care of those too old or too sick to support themselves. A number of studies around the world have found an increasing tendency for the elderly to live independently and a relative weakening of wealth flows from adult children to their aging parents[1]. This tendency has been attributed to modernization and industrialization processes and is often regarded as being inevitable (International Institute of Aging 1994). In most of the developing world, where pension and social security schemes remain embryonic, adult children and other immediate kin are still perceived by both the general public and the government as the "natural" caretakers of the elderly. This is especially true in countries influenced by Confucian values of filial piety and family responsibilities. However, in these countries, things are also changing. Research conducted in Japan, Thailand, Taiwan, Korea and China has confirmed findings previously limited to the West (Cho and Yada 1994; Davis and Harrell 1993; Hermalin, Ofstedal and Chang 1996; Hong and Byun 1998; Knodel, Chayovan and Siriboon 1996; Martin and Kinsella 1994; Mason and Miller 1998; Morioka 1996; Traphagan and Knight 2003; Whyte 2003).

Renovation forces in Vietnam tend to resemble globalisation processes observed elsewhere around the world, a context conducive to a decline in co-residence and financial assistance from children to their parents. In particular, the reforms have led to an intensification of migration flows, a major factor in severing traditional ties between generations (Goody 1996). At the same time, *Dôi Moi* has promoted a transfer of social-welfare functions from public institutions back to the family which, at the present, is the unique source of support available to its disabled members in most of the population (Friedman et al. 1999). The Vietnamese

government now stresses that "families should contribute significantly to the care of older persons" (Bui The Cuong et al. 2000) and previous studies do, in fact, underline the central role of children in providing assistance to their aging parents (Friedman et al. 2002; Knodel et al. 1998; Truong Si Anh et al. 1997). Our study presents evidence of families' strategies to provide continuous support to their older members in the midst of such conflicting influences. This chapter reviews the demographic context of aging in Vietnam, contemporary residential patterns of the elderly and the adaptation of family strategies to secure support for the elderly since geographic distance between adult children and their parents has increased. It ends with a discussion of the study implications for the future of the elderly in Vietnam.

The demographic context of aging in Vietnam

Vietnam stands at the beginning of a period of rapid aging due to its recent demographic history. Aging refers to both a high proportion of elderly in a population and to the process leading to it. It can result from a decline in fertility, from a decline in mortality or, more commonly, from the succession or coincidence of both. Due to previous demographic trends, all European countries and other industrial regions are faced with the reality of having a large proportion of the population being elderly. However, in these countries, the aging process has been very slow, due to a gradual decline in mortality and fertility associated with progressive improvements in the social, economic, medical and institutional environment, from the 19th century to the end of the 20th century. As underlined by Ham-Chande in a different context, "although there were ample opportunities and time allowances for social and economic adjustments, nevertheless ageing is still imposing great disturbances even upon the wealthiest nations" (Ham-Chande 1994, 46). By contrast, in many Asian countries, including Vietnam, the

demographic transition has been extraordinarily rapid. Indeed, in these settings, imported medical technologies and public health programs had an immediate and dramatic impact on the improvement of life expectancy at the same time as deliberate and strong policies promoting change in reproductive behavior reduced fertility to a level below replacement in hardly more than a generation.

Vietnam initiated its demographic transition, the transition from a high level of mortality and fertility to a low level of mortality and fertility, well before *Dôi Moi*. However, there are reasons to believe that the profound changes associated with the shift from a centrally-planned to a market-oriented economic system have been accompanied by an acceleration in the declining trends in both fertility and mortality. Consequently, the proportion of elderly who are 60 years and older in Vietnam will double in about 30 years; whereas, it took between 75 and 100 years to do so in Western countries.

Fertility

Fertility decline is the primary factor responsible for population aging. Demographic simulations show that it has a much stronger effect on the distribution of the population by age group than mortality decline during the initial stages of the demographic transition (Keyfitz 2005). Fertility change has a direct influence on aging at the population level because it determines the level and speed of the process in a population and at the individual level because it directly influences the number of potential caretakers in the immediate family.

As indicated in a number of studies, including a chapter in this volume, fertility has fallen progressively in Vietnam over the past 35 years. Population policy to curb population growth was initiated as early as the 1960s in the North, at a time when the total fertility rate was above six

children per woman. Initially ineffectual, it was progressively reinforced and eventually succeeded in deeply transforming reproductive behavior. Far from representing a turning point in the fertility limitation programs of the previous era, *Dôi Moi* further consolidated the State commitment and continued the effort as explained in more details in Scornet's chapter. The success of the national family planning program is reflected in the dramatically low level that has been reached as shown by the results of the most recent nationally representative demographic survey. The survey estimates the total fertility rate to be 1.9 children per woman in the early years of the 21st century, a level below that required for the natural replacement of the population (General Statistical Office 2003). This rate is also below that found in a number of developed countries, including the United States.

Because fertility declined relatively slowly until the early 1980s and accelerated only thereafter, most of the impact has not yet been felt. Today's elderly, who are in their 60s and above, spent their reproductive years during a period when the total fertility rate was still high (5 to 6 children per woman), even though delayed marriage, widowhood and spousal separation due to the war were common and tended to reduce fertility. However, even these generations will bear the consequences of rapid fertility decline in the near future as their proportion in the general population will progressively increase, a phenomenon further aggravated by the mortality trend.

Mortality

Mortality increased from about 12 per 1,000 at the end of the 1950s and 1960s to a level that is difficult to estimate at the end of the war, but which probably approximated 15 per 1,000 (Barbieri 2003). Thereafter, it dropped to below 10 per 1,000 at the end of the 1970s, 7.5 at the end of the 1980s and 5.6 at the end of the 1990s, according to the 1999 Population Census (General Statistical Office 2001). Life expectancy at birth now reaches a level above 65 years for

both sexes combined, with a significant difference between men (63.0 years) and women (67.5 years).

At current mortality levels, 25 percent of each cohort is expected to die before the age of 60 (General Statistical Office 2001). United Nations forecasts this proportion to decline by half over the next 40 years, with women having a continuous advantage over men. By the year 2050, 90 percent of men and 93 percent of women will survive to their 60^{th} birthday (United Nations 2005). In addition, those reaching the age of 60 will live longer and longer lives, from an estimated 18.5 to 21 years from 2000-2005 to 2045-2050 for men, and 20 to 24 years, respectively, for women (United Nations 2005). Thus, in terms of survival, women are, and will continue to be, in a more favourable situation than men are.

According to the 1999 Census, in addition to living longer, women typically marry men who are their elders by, 2.7 years on average (General Statistical Office 2001). Consequently, women are at a much higher risk of widowhood than men are which directly translates into higher and increasing proportions of unmarried women at later ages. As shown in Tables 1a and 1b, while the proportion of unmarried males increases from 7 percent at 60-64 years to 70 percent at 95 years and over, it rises from nearly 40 percent at 60-64 years to virtually 100 percent at 95 years and over for women, mainly due to widowhood. Aging is consequently, in Vietnam as elsewhere around the world, typically a female issue. Numerous studies have shown that one's spouse is the most significant helper in later life, as a source of mutual care and psychological support; therefore, the high proportion of women alone in the oldest age groups worsens the issue of rapid aging in the population.

-- Tables 1a and 1b here --

Consequences on the age structure

Because of these demographic trends, the elderly represent a significant minority in Vietnam's population today, with about 8 percent of the total population being 60 years and older, and their number is expected to grow faster than any other age group. As a result, the elderly will make up nearly 30 percent of the total population in the mid-21st century, from about 6 million today, to 13.5 million in 2025 and nearly 30 millions in 2050[2]. These projections are highly reliable since who will be 60 years and above in 2050 have already been born. The only factor liable to influence these numbers is the risk of mortality between now and the projection date, but considering the low level of mortality that now characterizes Vietnam, the error of margin is negligible. Furthermore, the needs of the elderly are unlike those of any other age group, and developing strategies, which are adapted to the particular political, cultural, social and economic context of Vietnam, in order to cope with this fast-growing issue will require some time. Consequently, collecting evidence on the current situation of the elderly to understand the challenges ahead more fully is not too premature.

Old-age dependency

From a socioeconomic standpoint, it is useful to estimate the burden of the dependent elderly on the active age population. In this respect, the most common indicator is the so-called dependency ratio, which is the ratio of the population aged 60 years and above to the working age population, typically defined as the population 15 to 59 years. A more relevant indicator to measure the actual cost of supporting the disabled or retired elderly is to calculate the number of employed people in this group, excluding students and the unemployed, since not all the adult population is economically active or able to care for others. Due to the increasing level and duration of education, the proportion of students of both sexes older than 15 years rises

continuously. A further limitation results from the fact that many elderly persons are forced to continue working to an advanced age due to economic constraints. However, it is much easier to obtain reliable statistics on the demographic characteristics than on the employment status of a population, so it is customary to approximate the latter, economic, indicator by the former, demographic, index.

In Vietnam, as in most Asian countries, the aging process, as measured by change in the old-age dependency ratio (the ratio of the population aged 60 years and over to the working age population), is anticipated to be very rapid during the next four decades or so, due to the demographic trends described above. The cost of supporting one person age 60 years and over, which falls on more than seven people aged 15 to 59 at the moment, will rest on only two people in that age group by the mid-21st century. The actual economic burden will depend on the proportion of the population actually working in both age groups. In addition to future demographic trends, there may be an increase in the age at entering the job market, due to a longer duration of education, an increase in the age at retirement, as well as lower rates of disability among the elderly, due to improved health. In any case, as already shown by current indicators, the fall in the old-age dependency ratio will likely be more pronounced in rural than urban areas because of differences in the distribution of the population by age, an issue that is more thoroughly investigated in the migration section of this chapter.

With an increasing number of elderly living longer, with fewer close relatives, the traditional pattern of inter-generational co-residence will likely is expected to sustain major constraints, due to these demographic factors alone. Other changes, related to rapid socioeconomic development fostered by the transition to a market system, exert further pressure on co-residence. The following sections examine current residential patterns of the elderly in

general and, more specifically, in the particular context of accelerating migration movements, before considering alternative forms of support. A brief description of the data used for the analyses is first provided.

Data

Two quantitative sources of information, both representative at the national level, were used in this analysis: the 3 percent public access micro-data sample extracted from the 1999 Vietnam Population Census and the 1997-1998 Vietnam Living Standard Survey.

The 1999 Population and Housing Census of Vietnam

The 1999 Population Census is the most recent one in Vietnam. The General Statistical Office of Vietnam distributes an electronic extract representing 3 percent of the overall dataset with detailed information at the individual and household levels that includes all the variables collected in the Census. The advantage of using this micro-sample dataset is that it is very large and consists of nearly 2.4 million household members. Because the proportion of people over 65 is relatively small in the general population (less than 6 per cent), survey samples are typically too restricted to provide statistically significant information on the elderly, unless they are specifically designed for this purpose[3]. In the 1997-1998 Vietnam Living Standard Survey, for instance, there are approximately 2,000 people aged 65 years and over, compared to nearly 130,000 in the micro-sample of the 1999 Population Census.

The main drawback of the 1999 Census dataset is the limited amount of information included. The basic demographic characteristics of age, sex and marital status are precisely documented, while the primary variable needed to investigate household composition – family

relationships among all household members – provides only a small number of categories and all of them in relation to the household head. These categories include “household head”, “spouse of household head”, “child of household head” and “father or mother of household head”. All other types of relationship are classified as "other". Thus, there is no way to identify parents, spouses or children of household members other than the household head. Socioeconomic characteristics are restricted to level of education, literacy and main occupation. Information on migration is limited to change in residence over an extended period (5 years), and does not include information on shorter residential movements or return migration flows; however, we know which administrative borders were crossed during the move (commune, district, province, country). In spite of its limitations, the 1999 Census, with its large sample size and nationally representative quality, is a powerful source of information, possibly the only one available to document general household structures and inter-generational co-residence patterns in relation with migration. However, it is obviously not appropriate for studying other forms of support. To do so, we rely on another source of statistical information.

The 1997-1998 Vietnam Living Standard Survey

The General Statistical Office of Vietnam conducted the first Vietnam Living Standard Survey (VLSS) in 1992-93 on a nationally representative sample of households (World Bank 2001). As part of the more global survey program carried out under the leadership of the World Bank in developing countries since the 1980s, the purpose of the 1992-93 VLSS was mainly to estimate variations in living standards and evaluate government policies. The 1997-98 VLSS updated information on the socioeconomic situation of the population and changes in living standards that occurred during the five years following the 1992-93 survey. In the second survey, 4 305 households from the original 1992-1993 sample were re-interviewed.

In addition to its relatively small sample size, the 1997-1998 VLSS contains limited information on migration. Indeed, most of the sample is by design comprised of non-migrant households – those households that had remained in the same location since the 1992-1993 survey. The proportion of households lost from the 1992-1993 sample, due to out-migration, reaches about 7 percent, a proportion very close to the individual migration rate at the national level (6.5 percent). We have no information about these households other than the fact that they moved out of the community.

Compared to the 1999 Census, the VLSS provides a wealth of information on the demographic, social and economic characteristics of the households and of each of their members, which is very useful for our purpose. As in the census, we know the relationship between each household member and the household head but, in contrast with the census, the information is very detailed. In addition to categories used in the census like "household head", "spouse of the household head", "child of the household head" and "father or mother of the household head", the survey also includes specific categories for "sons- and daughters-in-law", "fathers- and mothers-in-law", "grandchildren", "siblings", "grandparents", "nieces or nephews", "adopted or stepchildren", "other relatives" and "non-relatives".

Furthermore, the 1997-1998 VLSS contains information on the survival of each household member's biological father and mother, as well as the age, sex, marital status, and province of residence for all non-coresident children of the household members. This is extremely valuable for comparing the potential *versus* actual living arrangements of the elderly, given their demographic and socioeconomic characteristics as well as that of their children. Because the VLSS provides specific identification codes for the biological fathers, mothers and children of

each household member residing in the same household, it is possible to link household members to their closest co-residing relatives, independent of the household head.

In addition to enabling a detailed analysis of living arrangements of the elderly, the survey also allows for an exploration of other forms of support. It includes, in particular, information on remittances received by each household. It is possible to investigate financial transfers from non-co-resident adult children to their aging parents because both the senders and beneficiaries are identified[4].

In summary, the current study utilizes census data, with a large sample of older persons and information on migration status, and the 1997-1998 VLSS dataset, with information on kinship patterns, socioeconomic characteristics and financial transfers.

Methods

Both the census and survey data were analyzed using the ©STATA software. In our study, the elderly are defined as all individuals aged 60 years and above in both the 1999 Census dataset and the 1997-1998 VLSS data. All results are weighted, although the number of unweighted cases used is shown in the Tables. While census data are used to investigate the impact of migration on the household structure of the elderly, survey data are used to analyse living arrangements in relation with the number of children alive as well as to examine alternative forms of support, more specifically financial assistance.

Together, the two datasets answer a number of our initial questions, and they are of much value in guiding the discussion on the issue at stake. The four major findings include the following: 1) co-residence does remain widespread in Vietnam, and the large majority of elderly parents live with their children; 2) the elderly are less likely than younger people to migrate, but the proportion moving is not insignificant; 3) migration of the elderly appears to increase the

probability of co-residing with their children, suggesting that when older people do move, they do so to follow or join their children and immediate families; 4) remittances from non-co-resident children to their ageing parents' household is a major, and probably growing, form of support. The remainder of the paper documents and discusses each of these findings.

Residential patterns of the elderly

Confucian ideology, with its strong emphasis on the family as the basic social unit, has strongly dominated traditional Vietnamese society. The family system was rooted in virilocal residential patterns and patriarchy. The idealized multiple generations household, consisting of a patriarch, his wife, adult children and numerous grandchildren, illustrates the importance placed on family cohesion and integration, as well as the continuity of the family line (Hy Van Luong 1992). A study of family structure during the French colonial period suggests a different reality with a relatively small household size (below 6) and an equal proportion of nuclear and extended households (Bélanger 1997). However, the same study also demonstrates that the difference between observed and idealized family forms resulted, in large part, from the very high mortality rate recorded at the time, since an overwhelming proportion of the elderly actually lived with their adult children and their families (Bélanger 1997). As the analyses below indicate, the traditional pattern remains the norm in contemporary Vietnam.

Living arrangements of the elderly

Our analysis of the 1999 Census data shows that, overall in Vietnam, the proportion of elderly co-residing with their children is very high: over three out of every four persons (77 %), aged 60 years and over, co-reside with at least one adult child. Furthermore, a recently published study comparing the 1999 with the 1989 Population Census found that this proportion has been

very stable over time, with no indication of decline in the recent period (Knodel and Truong Si Anh 2002). This is comparable to that found in Thailand or in the Philippines, higher than in some Eastern Asian countries, such as Japan or South Korea, where it is closer to 60 percent, and considerably much higher than in Western countries, such as the United States or Germany, where it reaches a low 15 percent (Phillips 2000).

The high proportion of elderly living with their children is stable with only small differences by age, sex and area of residence. Regarding age, the proportion progressively declines from around 80 percent at 60-69 years to close to 70 percent at 70 years and above. Variations by sex do not exhibit a systematic pattern. Men are slightly more likely to live with children than women at 60-69 years and less likely to do so at 80 years and over. Generally, the proportion of elderly living with children is significantly higher in urban areas, where it reaches 80 percent, compared to rural areas, where it is 75 percent. The stronger pattern of co-residence found in urban areas could result from the higher cost of housing. It could also result from migration patterns as will be further discuss later.

Given the very high proportion of elderly co-residing with children, the percentage living alone or living only with a spouse is small (below 20%), compared to countries outside the region. In Japan, for instance, a country much more developed but belonging to the same geographic and cultural sphere, this proportion is above 40 percent. The overall proportion living with a spouse is larger than the proportion living alone (11% and 6%, respectively). The proportion of those living with a spouse tends to decline at older ages (from over 10% below 80 years to 8% after 80), while the number of those living alone increases with age due to rising widowhood (from 4% among 60-69 year olds to 9% among those 80 years and above).

Furthermore, when concentrating on those individuals living alone in the overall population, one finds that about half of them are aged 60 years or above.

Among those not living with children, the difference by sex is striking. Men are more likely to live with a spouse, and women are more likely to live alone. The proportion of elderly living with a spouse only is 15 percent for men and 9 percent for women, while the proportion of elderly living alone is 3 percent for men and 8 percent for women (Table 2).

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This contrast is especially true in rural areas. Compared to men, the percentage of women living alone is more than three times higher, while it is a little more than twice as high in rural areas (results not shown). These variations likely reflect differences in life expectancy, since older women are widowed more often than older men are. Thus, women are less likely to live with a spouse and more likely to live alone. The higher rate of loneliness for women also reflects their higher rate of childlessness. Indeed, demographic patterns likely constrain the elderly person's potential living arrangements. The number of surviving sons, the total number of surviving children and adult children's residential strategies all determine the likelihood of co-residence.

Surviving children

An analysis of the 1997-1998 VLSS data, using the information on all biological co-resident and non-co-resident children, shows that the proportion of those 60 years old and above who are childless is small (below 4%) (Table 3). This is a result of the high fertility regime under which today's elderly lived most of their reproductive years. Indeed, the mean number of surviving children in these cohorts is high (4.3, on average). It reaches its highest level at 60 to 69

years and then declines progressively and significantly to 4.6 at 70 to 79 years and 3.0 at 80 years and above.

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The data show significant variations by sex, with women being twice as likely to be childless when compared to men (4.8% *versus* 2.3% for those 60 years and above). Women are also much less likely to have a surviving son, especially in the highest age group (80 years and above) in which the proportion without a son reaches 30 percent *versus* 14 percent for men. During the 30-year war suffered by the country through the 1950s, 1960s and 1970s, women experienced a combination of early widowhood, non-marriage and high mortality (of children, in particular) at a time when they would have gone through their reproductive span. By contrast, marriage rates were high for those men who survived the war, and men who are widowers at the time of the survey presumably became so after the war. The probability of them having children is thus much greater.

The war also explains why the proportion of those without a son (11%) is so much higher than the proportion of those without any children (4%). For people 60 years and older and, more particularly, for those over 80 years, 25 percent are childless. Indeed, sons of those in these age groups would have been in their twenties at the end of the 1960s and the beginning of the 1970s. According to one study, "war mortality [was] highest in 1965-1975, the period of escalation of the American war, among men, especially young men between ages 15 and 29, and to a lesser extent among middle-aged men" (Merli 2000, 8). It remains, however, that close to 98 percent of men and 95 percent of women over 60 years have at least one surviving child, and over 90 percent of men and 85 percent of women in this group have at least one surviving son. The potential for co-residence between the elderly and their adult children is thus high.

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Survey data confirm the findings from the Census data analysis that a high proportion of elderly are living with their children. Restricting the analysis to those elderly with at least one surviving child shows a systematic pattern with age that was not perceptible using Census data (Table 4). While 80 percent of people 60 years and above with at least one surviving child co-reside with adult children, the proportion drops to 60 percent at 70 years and above. Again, there is no clear difference between men and women in the probability of living with a child, except at higher ages. Three out of four women aged 80 years and above co-reside with a child whereas the proportion is below 50 percent for men at that age. This results from the higher rate of female widowhood and the association between widowhood and co-residence with children, which is revisited below.

The data show that, for both men and women in every age group, the proportion living with a son (and no daughter) is about 50 percent higher than the proportion living with a daughter (and no son). The result persists even when we restrict the analysis to the elderly who have a choice between living with a son or daughter.. The proportion of both men and women who live with a son only is about 60 percent, while the proportion who live with a daughter only is 30 percent for 60 to 69 year olds, nearly 40 percent and 20 percent for 70 to 79 year olds, and approximately 30 percent and 15 percent for those 80 and older. The proportion of men and women who live with both a son and a daughter is higher than the proportion who live with only a daughter.

In conclusion, the most interesting finding, in the Vietnamese cultural context, is that the proportion of parents living with a daughter (and no son), even when sons are alive, is not insignificant. About 20 percent of those 60 years and above, approximately 30 percent of those 60

to 69 years and slightly below 20 percent at older ages live in this situation. It is certainly higher than Confucian values would have led us to expect. Indeed, Confucianism emphasizes the role of male children in caring for their elderly parents.

Intergenerational support and migration

Demographic factors, like the number of surviving children, and the geographic distance between adults and their aging parents determine the number of potential caregivers among children. The 1990s have witnessed a remarkable increase in migration flows in Vietnam with about 6.5 percent of the population, nearly 4.5 million people, having experienced a change in residence between 1994 and 1999, a restrictive definition of migration that undoubtedly under-estimates the phenomenon (Dang, Tacoli and Hoang 2003). Furthermore, this is a national average that conceals major variations by region; for example, the proportion of migrants increases to one out of every five persons (20%) in Hô Chi Minh City, the main economic pole, when using the Census definition.

A recent study on migration in Vietnam has clearly identified three main mechanisms through which *Dôi Moi* has influenced population movement and distribution in this country (Dang, Tacoli and Hoang 2003). On the supply side, the de-collectivisation of agriculture produced an increase in productivity and released a significant proportion of the rural labour force. The growth of foreign investment in industries and services concentrated in some regions and, in particular, in large and medium-size cities, creating new economic opportunities in these sectors and areas for workers released by the agricultural sector. Finally, the relaxation of governmental controls on internal migration provided the means for workers released by the agricultural sector to take advantage of the new employment opportunities. Such opportunities

mainly benefited the newly educated young, since approximately half of all migrants are below 25 years of age (Dang 1999; Djamba, Goldstein and Goldstein 2000). About 45 percent of the 4.5 million migrants moved across provincial boundaries and, for the majority of them, the move implied a change of region (Dang, Tacoli and Hoang 2003).

Migration is a good example of a process associated with rapid economic transformations, which has a strong, potentially detrimental impact on the traditional role of the immediate relatives caring for and supporting elderly family members. It shows how the needs of the elderly are being threatened in the context of *Dôi Moi*. Indeed, long distance migration of the young is expected to have a considerable and multi-dimensional impact on the well-being of older people in a country where government assistance to the elderly has virtually disappeared in recent years and where most of the responsibility for old-age caregiving now falls on the immediate family and community (Bui et al. 2000). Young adults' migration reduces the availability of physical and emotional support for the elderly left behind and results in a loss of potential caregivers to the ageing parents, as already demonstrated in other countries of South-East Asia (Chang 1992). Because of intensifying migration flows from rural to urban areas, the burden of older people is heavier in rural areas.

For the moment, however, the greater availability of immediate kin in rural areas compensates largely in the differential rate of support in the overall population between rural and urban areas. Because fertility decline started earlier in urban than in rural areas, the average number of children alive is higher for people aged 40 years and over in the rural compared to urban areas (Tables 5a and 5b).

-- Tables 5a and 5b here --

Cangping and Peng's analysis of ageing in China is particularly relevant for Vietnam. They show how economic development increased the demand for young workers, and how differential fertility trends contributed to the geographic unbalance of labour demands:

> *It is easy to ascertain that the areas receiving migrants are almost all those recording low fertility rates whilst the areas sending migrants are primarily rural ones, particularly the interior provinces. Outcome of transition is the shift of young persons from primary industry to secondary and tertiary industries, with agriculture work relying on 'outsiders'. On the one hand, the migration of a large number of peasants to the cities in pursuit of a better life tends to alleviate the ageing process and helps to rejuvenate their population. On the other hand, the problems associated with rapid ageing in a rural environment, such as income security, medical and emotional care of the elderly, pose an increasing challenge. (Cangping and Peng 1993,62).*

Living arrangements of elderly parents with children on the move

Our analyses confirm that older persons are the least likely to migrate. Figure 1 below represents the age and sex distribution of migrants, as defined in the 1999 Population Census (those individuals who lived in another commune five years before). As expected, the age pyramid is heavily skewed towards younger people and women, a phenomenon well documented in all of Asia. The proportion of migrants is higher among people aged 20 to 24 years (around 15%) and lower among people 60 years and over (from 3% among 60 to 64 year olds and 2 % among those 80 years and over).

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However, the data show that those elderly who do migrate are more likely to live with their children than those who do not. We carried out a logistic regression using the 1999 Census

data to estimate the probability of co-residing with a child for all elderly aged 60 years and over by migration status. We restricted the analysis to ever-married individuals, as the social and historical context makes it virtually impossible for the never-married to have children. Because, as we have seen above, co-residence varies by sex, age, marital status and place of residence, we introduced these factors into the multivariate model. We also controlled for literacy, the best proxy for social class available in the Census. Table 6 presents the results of this analysis. Odds ratios, rather than coefficients, are shown for easier reading. The level of statistical significance is also indicated for each individual category.

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The main finding here is that the probability of living with a child is *higher* for migrants moving out of their immediate geographic neighbourhood (out of the district) than for non-migrants, and this is especially true for the elderly living in urban areas. As previously noted, elderly in urban areas are more likely than their rural counterparts to live with children (odds=1.34). Because of a multiplication effect, if the elderly have moved into their current urban place of residence within the previous years by leaving another district (urban or rural) in the same province or in another province, their odds of co-residing with a child are more than twice the odds of those living in a rural area.

The other variables in the model, except for sex, operate in the expected direction. Indeed, the one unexplained finding is that, accounting for all factors, including age and marital status, women are less likely than men to co-reside with a child (odds=0.75). This remains true for those who are married or unmarried. However, within each sex, the odds of living with a child are significantly higher for the unmarried elderly. Therefore, widowed men are more likely to live with a child than married men are, and widowed women are more likely to live with a child than

unmarried women, although less than widowed men. Odds ratios using other variables confirm previous findings. The older a person, the less likely he or she is to co-reside with a child: compared to the reference category of 60 to 69 year olds, the odds are about a third below for 70 to 79 year olds, and a half below for those 80 years and over. Illiteracy, our one measure of poverty, significantly increases the odds of living with a child by a small amount (odds=1.1). The type and region of residence interacts in an interesting way so that living in the South systematically increases the odds of living with a child (odds=1.7), especially in urban areas, where the odds are about twice that of the reference category (rural North). Living in the rural Center reduces the odds of living with a child, compared to the reference category (odds=0.8), although it increases them slightly in urban areas (odds=1.5 for elderly in the urban Center, compared to odds=1.3 for elderly in urban North).

In conclusion, this analysis demonstrates that, when older people move to an urban area, they are more likely to follow or join their adult children. This is especially true for males, widows, the younger elderly, the illiterate and those living in the South. However, since a much higher proportion of young adults migrate, in most families children who move often leave their parents behind. Financial support, in the form of remittances, is a likely substitute for physical proximity, especially when the move is associated with upward social mobility for the adult children, a situation observed for most permanent migrants (Djamba, Goldstein and Goldstein 2000). Indeed, findings from two regional surveys conducted among Vietnamese elderly people in 1996 and 1997 revealed that many report receiving remittances from non-co-resident children (Bui et al. 2000). To further investigate alternative forms of support, we carried out an analysis using the information on remittances from the 1997-1998 VLSS dataset.

Remittance as a major alternative form of support

To investigate the receipt of remittances from non-co-residing children, we restricted the analysis to those elderly with at least one non-co-residing child. Similarly, to examine differentials by sex of the sender, we limited the analysis of remittances from sons to those elderly with at least one non-co-residing son and the analysis of remittances from daughters to those elderly with at least one non-co-residing daughter.

The analysis shows that slightly over 20 percent of all elderly 60 years and above have received remittances from a non-co-residing child in the previous 12 months, 16 percent from a son and 12 percent from a daughter[5]. However, it is unlikely that each member of an elderly couple would receive remittances from their children. Indeed, the VLSS phrases questions referring to remittances in such a way that it forces the respondent into designating a single beneficiary, while the actual intent in sending money to elderly parents would have likely been to benefit both of them. This would also explain why the proportion of women who received remittances is so much lower than that of men (respectively, 10% and 30%). Accounting for this bias, we estimated the proportion of all households with an elderly person in which remittances were received from a child over the past 12 months. The percentage of beneficiary households then increases to 35 percent. In addition, this approach also indicates that women are more likely to live in a household that receives remittances from children. The proportions are 37 percent of women and 33 percent of men. Indeed, women benefit from remittances both directly, when they are widowed and living alone, and indirectly, through their husband when they are still married. Since remittances from children are sent twice as often to a one-person household (the proportion reaches 60%) than to a couple-only household (33%), and, since women are more often living in a one-person home , they are also more likely to receive remittances than men.

The data further show that sons tend to send support more often (to 25% of all households in which at least one elderly person lives) than daughters do (to less than 20% of such households). Age is also a factor, with the older people receiving support more often.. The proportion of households with an elderly person having received remittances over the previous 12 months increases from 30 percent when at least one of the elderly is aged 60 to 69 to nearly 60 percent when an elderly person 80 years and over resides there. Wealthier households and households located in urban areas are also more likely to receive remittances from non-co-residing children. The proportion is about three times higher for the richest household compared to the poorest (respectively, 50% and 17%) and those in urban areas are about fifty percent more likely to receive remittances than those in rural areas (respectively, 46% and 31%). However, many of these factors are interrelated. For instance, wealthier households are more frequently found in urban than in rural areas. Women are also more likely to be older and widowed, while men are more likely to live in couple-only than in one-person household than women. A multivariate analysis is thus called for to disentangle the separate influence of each variable and to estimate their net effect, independently from that of the others.

Three logistic regressions using the 1997-1998 VLSS data estimate the odds of having received remittances during the previous 12 months, depending on the sex of the sending child. We obtained results from non-co-residing children (first model in column 1), from non-co-residing sons (second model in column 2) and from non-co-residing daughters (third model in column 3) for the elderly aged 60 years and above. The covariates in the models include the following characteristics of the beneficiary: sex (male *versus* female), age group (60-69, 70-79 and 80 and above), household structure (one-person, couple only, couple with unmarried children, single head with unmarried children, parents with married children, other), household

income group (five categories from poorest to richest) and place of residence (rural or urban)[6]. All variables were dichotomized. The reference category for all models is men, aged 60 to 69 years, living alone, in a rural area, in the lowest income group. The analysis results are presented in Table 7. We have presented odds ratios, rather than coefficients, to facilitate interpretation of the results. A ratio significantly above one indicates a positive relationship between the independent variable (having received remittances from a child over the previous 12 months) and the indicator tested; a ratio significantly lower than one indicates a negative relationship between the two variables.

-- Table 7 here --

Multivariate analysis confirms that women are more likely to receive remittances from either sons or daughters than men are (OR = 1.267 *versus* 1). Also, as they age, they are more likely receive some form of support (OR = 1.884 at 70 to 79 years and 2.319 at 80 years and over *versus* 1 at 60 to 69 years in the first model). Furthermore, the analysis confirms that isolated elderly (those either living alone or with a spouse only) are more likely to receive remittances from their children than elderly who are co-residing with a married or unmarried child. The possible exception is the elderly in a single headed household (the odds ratio is below one, but it is not significant). Indeed, the odds of receiving remittances for the first two household categories are three times higher than those for elderly couples living with married or unmarried children. However, there is no significant difference in the odds of receiving remittances between one-person and couple-only households. Socioeconomic characteristics also appear to influence significantly the odds of receiving remittances, as those elderly living in urban areas and in wealthier households are more likely to receive support from non-co-residing children than the rural and poor elderly are. Though both variables show a significant net effect, for area of

residence, it is relatively small (OR = 1.611 for elderly in urban areas *versus* 1 for those in rural areas). By contrast, the effect of wealth is very strong. In fact, it is the strongest effect of all variables in the model with an odds of receiving remittances five times larger for those elderly in the richest households than for those in the poorest (OR = 4.939 versus 1). This finding can be explained either by the fact that remittances represent the main source of the recipient's wealth or by the fact that offspring of wealthy households are themselves more likely to be wealthy, and, thus, in a position to send money or goods to their ageing parents. Other authors have interpreted such a result as reverse causality: children of wealthier parents would be more likely to send assistance in the hopes of receiving a larger part of the inheritance (Knodel, Friedman, Truong Si Anh and Bui The Cuong 2000).

The variables operate in the same direction whether we consider remittances from any child (model in first column of Table 7) or whether we look separately at remittances sent by sons (second column in Table 7) and remittances sent by daughters (third column in Table 7). However, the one interesting difference is that for every significant variable, the effect is stronger in the third than in the second model. In other words, though overall, daughters are less likely than sons are to send remittances to their elderly parents, their sending behaviour is more strongly influenced by their parents' circumstances than that of sons. For instance, the odds of a daughter sending remittances to her elderly parents are three times larger when the parents are very old (80 years and above) than when they are younger (60 to 69 years), while, for sons, they are only about 2.5 times larger. Similarly, the odds of a daughter sending remittances are about twice as large when the parents live in an urban area than when they live in a rural area. For sons, the odds are 30 percent larger.

In conclusion, the results of multivariate modelling indicate, as initially hypothesized, that geographic distance between adult children and their elderly parents should not be interpreted as a sign of indifference. They also point to the often underestimated role of daughters compared to that of sons. Indeed, though we found that daughters are less likely to live with their elderly parents than sons and equally less likely to send financial assistance, their contribution is not insignificant. All of these results confirm earlier findings in other, more geographically restricted, studies (Knodel, Friedman, Truong Si Anh and Bui The Cuong 2000). Our research findings imply that the intensification of migration does not necessarily jeopardize intergenerational solidarities and that children continue to take responsibility for their elderly parents even when they live apart and especially when those elderly are in a particularly vulnerable situation, such as without a spouse or in those age groups when disability increases.

Discussion and conclusion

Combining information from two different sources of quantitative data, we found that though increasing geographic mobility puts pressure on traditional family patterns because younger people are more likely to move than older persons, co-residence between adult children and their ageing parents remains the norm in Vietnam, with about 75 percent of all people 60 years and above living with at least one child, most often a son. This finding runs counter to modern theory of the necessary shift in household composition prior to rapid economic development (Cain and McNicoll 1996; Goody 1996). Families in Vietnam have developed alternative strategies of elderly support in response to their changing environment in keeping with firmly rooted values of elderly care by their immediate family. When still young, and presumably healthy enough, the elderly follow or join their adult children moving out. For those elderly too

old or fragile to follow their migrant children and, especially for those left without co-residing children, intergenerational support takes the form of remittances. We realize that reducing intergenerational support to only co-residence and financial transfers is an over-simplification likely to under-estimate the true level of exchange between generations. Such a reduction overlooks a whole set of other major forms of support, such as the type of general care that can be provided by children who do not live in the same dwelling, but who live in the same village or neighbourhood. The over-simplification results from the constraints of statistical analysis with its binary decision (co-residence *versus* non-co-residence), which ignores the diversity of living arrangements between married children and their elderly parents. Other forms of goods and service transfers from children to their aging parents' households, as well as emotional support in the form of frequent visiting or daily phone calls, are similarly overlooked. In spite of such limitations, we believe that our analysis has succeeded in demonstrating the continuity of traditional support of the older generation by the younger and that, had the data allowed us to take into account all forms of exchange, the results could only have reinforced our main conclusion.

There are, however, a number of troublesome points highlighted by our study for the future of the elderly in Vietnam. For one thing, there is a sizeable proportion of isolated elderly, about 15 percent of those aged 65 to 69 years and 20 percent of those 70 years and above, who live by themselves or with a spouse only. Among these isolated elderly, quite a significant proportion are childless (40 to 45 percent) or have received no material help from their children over a relatively long period of time (one year).

The proportion of the population 60 years and above will increase only moderately during the first two decades of the 21st century. However, the proportion of the "oldest old" among the elderly will be significantly greater over that period, given the faster growth registered among the

"oldest old" (those 75 years and above) compared to the “younger elderly”. This is relevant to our discussion because the "oldest old" are more likely to be disabled. They stand a much greater risk of long-term illnesses and loss of independence, and they are in much greater need of extensive care. The sex imbalance that leads to a higher risk of widowhood for women also increases with age so that, even though the overall proportion of the elderly in Vietnam over the next 20 years does not appear threatening, the proportion of dependent and isolated elderly will likely grow significantly.

Furthermore, future demographic trends do not cast an optimistic light on the situation of the elderly. The continuing decline in the average number of offspring, which resulted from the rapid fertility transition experienced in Vietnam, has yet to show most of its effects on the situation of the elderly. In addition, the major socioeconomic changes, which continue to characterize Vietnam, are likely to foster a further increase in migration flows. This is particularly likely, considering the relatively low rate of urbanization in the country, compared to the rest of the region or even to countries in other parts of the world with a comparable rate and pattern of socioeconomic development. Increasing migration will result in an increasing proportion of isolated elderly.

In particular, one might wonder whether geographic distance will eventually weaken the ability of elderly parents to rely on their migrant children. As for those parents who move with or join their children, they may find it difficult to adjust to a new geographic setting, especially when moving from a rural to an urban area. Furthermore, to the extent that housing conditions are better in rural than in urban areas, the move will likely be detrimental to their quality of life.

On the bright side, however, this very socioeconomic development also means that young adults who are willing to migrate in search of economic opportunities will more likely benefit

economically and socially from their change of residence. Thus, they will be in a better position to provide some kind of material support to their ageing parents.

In conclusion, the current period, with its relatively low proportion of older persons in the population, should be one of close monitoring in which the government can develop programs designed to help young adults care for their elderly parents before the gains in mortality and the accelerated fall in fertility, observed during the past two decades, show their full effects on the ageing population. While the well-being of the elderly might not be a priority for the government, since fewer than 10 percent of the population are aged 60 years and over, it will most likely become a major one after 2020 when this proportion will more than double to reach 25 percent. Therefore, the current period is a window of opportunity for the research community and policymakers alike to better understand the phenomenon before pressure becomes too strong to ignore any longer.

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Figure 1. Age pyramid of migrants (per 1,000 total)
1999 Vietnam population census

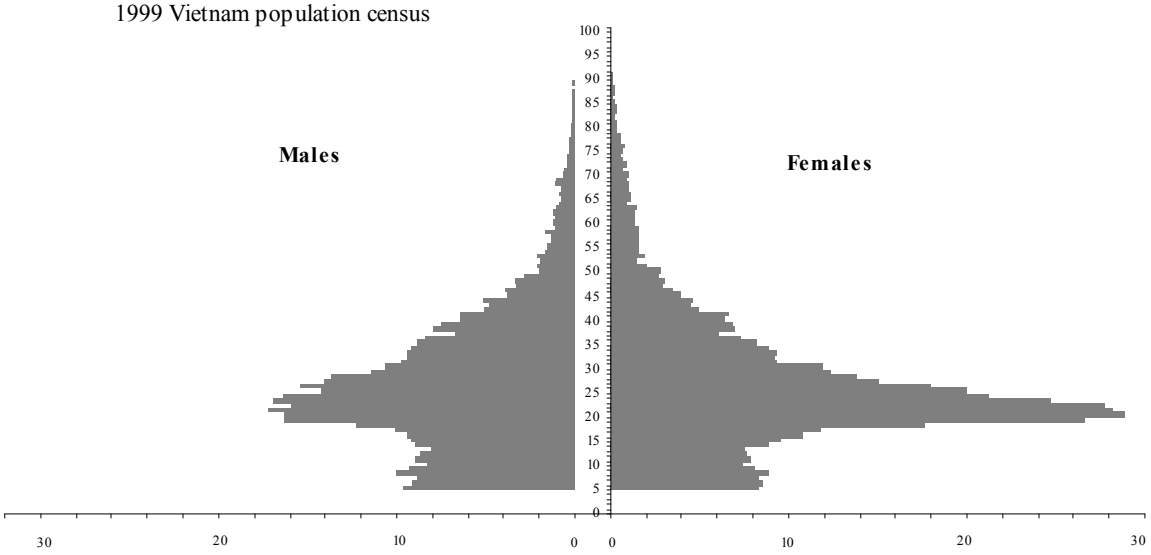

Table 1a. Distribution of the male population 60 and above by sex, age group and marital status, Vietnam 1999 Population and Housing Census

Age group	Marital Status - Male							Total number of males
	Single	Married	Widowed	Divorced	Separated	Not reported	Total	
60-64	0,4	92,7	5,9	0,3	0,6	0,0	100,0	775 800
65-69	0,4	88,9	9,9	0,3	0,6	0,0	100,0	750 800
70-74	0,5	83,6	15,2	0,1	0,6	0,0	100,0	504 200
75-79	0,4	74,9	23,7	0,1	0,7	0,1	100,0	313 600
80-84	0,6	65,8	32,8	0,1	0,6	0,1	100,0	143 500
85-89	0,8	53,2	45,0	0,1	0,6	0,4	100,0	67 600
90-94	0,5	45,5	53,1	0,3	0,2	0,4	100,0	14 820
95 +	0,0	30,7	67,1	0,0	0,9	0,8	100,0	4 901
Total	36,4	61,1	1,8	0,4	0,3	0,0	100,0	37 520 000

Source: Author's estimates using the 3% public access micro-sample, 1999 Population and Housing Census.

Table 1b. Distribution of the female population 60 and above by sex, age group and marital status, Vietnam 1999 Population and Housing Census

Age group	Marital Status - Female							Total number of females
	Single	Married	Widowed	Divorced	Separated	Not reported	Total	
60-64	1,6	61,9	34,4	0,8	1,3	0,1	100,0	990 800
65-69	1,4	53,5	43,8	0,4	0,8	0,1	100,0	931 100
70-74	0,9	40,6	57,3	0,3	0,7	0,2	100,0	704 700
75-79	1,0	28,0	69,9	0,3	0,6	0,2	100,0	520 100
80-84	0,9	15,8	82,6	0,0	0,4	0,3	100,0	275 200
85-89	1,0	8,4	90,0	0,0	0,2	0,4	100,0	143 200
90-94	0,8	4,2	94,7	0,0	0,2	0,0	100,0	44 140
95 +	0,3	2,4	93,7	0,0	0,0	0,7	100,0	15 138
Total	30,1	57,7	10,4	1,0	0,8	0,0	100,0	38 810 000

Source: Author's estimates using the 3% public access micro-sample, 1999 Population and Housing Census.

Table 2. Percent distribution of the population 60 years and above for each household type by sex and age group

Age group and sex	Percent population 60 years and above living with				
	Alone	with spouse only	with children	with others	Total
Male					
60-69 years	1,7	12,2	82,3	3,8	100,0
70-79 years	3,6	18,2	72,3	5,9	100,0
80+ years	6,1	16,7	69,1	8,1	100,0
All 60+ years	2,7	14,5	78,0	4,9	100,0
Female					
60-69 years	5,8	9,7	78,7	5,9	100,0
70-79 years	10,2	9,6	72,3	7,9	100,0
80+ years	10,7	3,4	75,2	10,7	100,0
All 60+ years	7,9	8,8	76,1	7,2	100,0
Both sexes					
60-69 years	4,0	10,8	80,3	5,0	100,0
70-79 years	7,6	13,0	72,3	7,1	100,0
80+ years	9,2	7,7	73,2	9,9	100,0
All 60+ years	5,8	11,2	76,8	6,2	100,0

Source: authors's analysis of 1999 Census data (3% sample).

Table 3. Percent distribution of the population 40 and over by proportion childless, sonless and number of surviving children by age group and sex, 1997-1998 (%)

Age group	Male			Female			Total		
	% with no surviving child	% with no surviving son	Mean number of surviving children	% with no surviving child	% with no surviving son	Mean number of surviving children	% with no surviving child	% with no surviving son	Mean number of surviving children
40-49	3,63	12,69	3,6	7,44	16,92	3,6	5,68	14,96	3,6
50-59	2,64	7,19	4,8	5,92	12,52	4,7	4,44	10,12	4,7
60-69	2,16	6,89	5,4	3,68	9,70	5,1	2,99	8,43	5,2
70-79	2,39	6,65	5,2	3,48	13,92	4,1	3,04	10,95	4,6
80+	3,19	13,83	4,0	13,00	30,00	2,6	9,86	24,83	3,0
All	2,93	9,52	4,5	6,06	14,62	4,2	4,67	12,34	4,3

Source: Author's analysis of the 1997-1998 Vietnam Living Standard Survey data, World Bank.

Table 4. Differences in the elderly living arrangements by age and sex relative to own children (%)

Survival of children and co-residence	Men			Women			Total		
	60-69	70-79	80+	60-69	70-79	80+	60-69	70-79	80+
Percent living with									
at least one child of any sex*	80.1	58.1	44.7	79.6	64.6	74.1	79.9	60.9	58.1
at least one son*	70.0	47.9	32.8	71.9	53.3	51.5	70.9	50.1	39.1
at least one daughter*	49.3	31.0	25.5	50.8	40.7	57.9	50.0	34.7	39.1
at least one son and one daughter**	36.8	19.0	10.7	37.6	19.5	4.2	37.2	19.2	9.0
at least one son and no daughter**	62.5	39.7	27.7	54.0	30.8	28.4	58.7	36.6	27.9
at least one daughter and no son**	36.6	21.1	16.8	28.1	15.4	16.0	32.6	19.0	16.6

* Among all individuals with at least one surviving child/son/daughter ; because siblings sometimes co-reside with their parents, especially when unmarried, the percentage of elderly people living with a male child and the percent living with a female child do not add up to the percent living with any child.

** Among all individuals with at least one surviving son and one surviving daughter.

Source: author's analysis of 1997-1998 Vietnam Living Standard Survey data.

Table 5a. Percent distribution of the population 40 and over by number of surviving children by age group and sex in rural areas, 1997-1998 (%)

Age group	Male				Female			
	0	1	2+	Total	0	1	2+	Total
40-49	1.4	1.5	97.1	100.0	5.5	4.1	90.3	100.0
50-59	1.6	1.7	96.6	100.0	5.0	5.4	89.6	100.0
60-69	2.0	2.3	95.7	100.0	2.7	4.3	93.0	100.0
70+	1.9	8.4	89.7	100.0	5.9	20.7	73.4	100.0
All	1.7	2.7	95.6	100.0	4.9	7.5	87.7	100.0

Source: Author's analysis of data from the 1997-1998 Vietnam Living Standard Survey, World Bank.

Table 5b. Percent distribution of the population 40 and over by number of surviving children by age group and sex in urban areas, 1997-1998 (%)

Age group	Male				Female			
	0	1	2+	Total	0	1	2+	Total
40-49	7.2	5.9	86.9	100.0	11.2	8.2	80.6	100.0
50-59	4.8	2.9	92.3	100.0	7.6	5.7	86.7	100.0
60-69	2.8	2.4	94.8	100.0	6.5	9.2	84.4	100.0
70+	4.4	13.9	81.7	100.0	7.3	25.1	67.6	100.0
All	5.4	5.3	89.3	100.0	8.8	10.7	80.5	100.0

Source: Author's analysis of data from the 1997-1998 Vietnam Living Standard Survey, World Bank.

Table 6. Predicted odds of living with a child
(all ever-married people aged 60+ years)

Independent variable	Odds ratio	P>z
Sex		
Male (ref.)	*1,000*	
Female	0,747	***
Age group		
60-69 (ref.)	*1,000*	
70-79	0,661	***
80+	0,517	***
Marital status		
Married (ref.)	*1,000*	
Widow/sep/div	1,863	***
Literacy		
Literate (ref.)	*1,000*	
Illiterate	1,135	***
Zone of residence		
Rural (ref.)	*1,000*	
Urban	1,339	***
Migration status		
Non migrant (ref.)	*1,000*	
Same district	1,092	
Same province	1,080	
Other province	1,217	
Abroad	2,577	
Interaction urban resid.* migration		
Non migrant (ref.)	*1,000*	
Same district	0,835	
Same province	1,709	*
Other province	1,536	*
Region of residence		
North (ref.)	*1,000*	
Center	1,113	***
South	1,602	***
Interaction urban resid.* region		
Urban North (ref.)	*1,000*	
Urban Center	0,730	***
Urban South	1,085	*
Number of observations	79 344	
Prob > Chi2	0,0000	
Log-likelihood	-36 780	
Pseudo R2	0,0333	

*** p<0.01 ; ** p<0.05 ; * p<0.1

Source : Author's analysis of the 1999 Population Census (3% micro-sample)

Table 7. Three logistic regressions odds ratios for the reception of remittances over the previous 12 months from non-coresiding children in Vietnam

(all individuals 60+ years with at least one child/son/daughter)

Independent variable	Remittances received from					
	Any child		Any son		Any daughter	
	Odds ratio	P>z	Odds ratio	P>z	Odds ratio	P>z
Sex						
Male (ref.)	*1,000*		*1,000*		*1,000*	
Female	1,267	*	1,209		1,256	
Age group						
60-69 (ref.)	*1,000*		*1,000*		*1,000*	
70-79	1,884	***	1,521	***	1,857	***
80+	2,319	***	2,616	***	3,099	***
Household structure						
One-person (ref.)	*1,000*		*1,000*		*1,000*	
Couple only	1,119		1,847		1,109	
Couple with unmarried children	0,363	**	0,645		0,451	
Single head with unmarried children	0,694		0,764		1,463	
Parent(s) with married children	0,349	**	0,538		0,548	
Other structure	0,710		1,036		1,206	
Household income groupe						
Poorest (ref.)	*1,000*		*1,000*		*1,000*	
Poor-mid	3,140	***	2,550	***	3,508	***
Middle	3,152	***	2,769	***	3,460	***
Mid-upper	2,627	***	2,960	***	2,487	**
Richest	4,939	***	4,346	***	4,881	***
Place of residence						
Rural area (ref.)	*1,000*		*1,000*		*1,000*	
Urban area	1,611	***	1,325	*	1,939	***
Number of observations	1502		1299		1332	
Prob > Chi2	0,0000		0,0000		0,0000	
Log-likelihood	-867,41		-713,75		-645,28	
Pseudo R2	0,1071		0,0878		0,0981	

*** p<0.01 ; ** p<0.05 ; * p<0.1

Source : Author's analysis of the 1997-1998 Vietnam Living Standard Survey

[1] For a recent review on the elderly residential patterns in a variety of geographical settings, see United Nations, *Living Arrangements of Older Persons Around the World*, Economic and Social Affairs, New York, 2005.

[2] The United Nations projection used here is the low variant as the other variants are based on fertility levels significantly higher in 2000-2005 as those recorded in the latest Demographic and Health Survey (2002), i.e. 1.9 for the low variant *versus* 2.1 for the medium variant, 2.4 for the high variant and 2.3 for the constant variant, while the DHS showed a level already as low as 1.87 for the period 1998-2002.

[3] To our knowledge, there have only been two such surveys carried out in Vietnam, namely the 1996 Survey of the Elderly in the Red River Delta, undertaken by the Hanoi Institute of Sociology, and the 1997 Survey of the Elderly in Hô Chi Minh City and Environs, undertaken by the Hô Chi Minh City Institute of Economic Research. Both surveys were conducted on a local sample of a small number of interviewees, that is 930 and 840, respectively, in each survey (Truong Si Anh *et al*., 1997). Data from these two surveys are not for public access.

[4] The questions on remittances asked in the 1997-1998 VLSS were phrased as follows: "During the past 12 months, has any member of your household received money or goods from persons who are not members of your household?", if the answer was "Yes", then the household head was asked "What is the relationship of [name of the people who sent money or goods] to the person who received money?" and "child" was one of the possible answer, and the sex of the sender was documented.

[5] Because an elderly person might have received remittances from several of his children, both sons and daughters, the percentage having received remittances from any son and the percentage

having received remittances from any daughter do not add up to the total percentage of those having received remittances from any child.

[6] In fact, because of the previously discussed bias, we did not distinguish between those elderly who directly received remittances, i.e. those specifically designated by the survey respondent as the beneficiary, from those who received remittances through their spouse.