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REMITTANCES, LIVING ARRANGEMENTS,
AND THE WELFARE OF THE ELDERLY IN VIETNAM

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Abstract

During a time of rapid economic transformation in Vietnam, we examine two possibilities for elderly support: living together with children and receiving remittances. Our analysis uses four household surveys conducted in Vietnam between 1992 and 2004. With the highly detailed 1997/98 survey, we find that 73.1 percent of Vietnamese elderly are living with children and 34.8 percent were either receiving remittances directly or married to a recipient. From our logistic regression analysis, we can further determine that living with children and remittances both serve continuing roles for elderly support, and our findings suggest that expanding the pension system in Vietnam can potentially play an important role in reducing elderly poverty without crowding out these other support mechanisms.

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Introduction

Like many countries, Vietnam is currently experiencing rapid demographic and economic changes. Will demographic and economic transformation with urbanization and increasing migration weaken the traditional family structure, leaving more elderly people without the traditional support and care from their families? If so, how are families responding and adapting to the changing conditions? In addition to own earnings and pensions, we examine two possibilities for elderly support: living together with children and receiving remittances, and how these two forms of support interact. We hope that our research can enlighten the situation about elderly living arrangements and resource transfers in order to better understand how families are coping to maintain family relationships in spite of the rapid economic changes of modernization, industrialization, and globalization in Vietnam. We also consider the potential role for government policy to improve the situation for Vietnam's elderly population.

As is the case in many developing and emerging market countries, the elderly population in Vietnam will present numerous challenges for policy makers in the coming years. This is because, first, the elderly population can be expected to continue growing, both in absolute numbers and as a percentage of the population. These demographic trends result from decreasing mortality rates, decreasing fertility rates, and increasing life expectancy. The medium-variant population projections by United Nations (2007) show that Vietnam is still a young economy with about 7.6 percent of its total population aged 60 and over in 2005, but it will face the same issues of aging as other countries in the coming decades. Recent demographic changes show that life expectancy at birth increased from 68 in 1995 to 71 in 2007, and fertility rates declined from 2.8 children per woman in 1995 to 1.9 in 2007 (International Database–IDB, 2008). The United Nations population projections also indicate that the elderly population will increase significantly, reaching 26.1 percent of the population in 2050, and the total dependency ratio in Vietnam will be mostly driven by the elderly dependency ratio.

Second, the economy in Vietnam is rapidly transforming since the *Doi moi* (economic innovations) in 1986. For the most part, this is producing many successes. Poverty rates for the elderly have fallen dramatically from 48.9 percent in 1992/93 to 17.9 percent in the 2004 (Giang and Pfau, 2007a). Vietnam's real GDP grew by more than 8 percent for each year between 1992 and 1997, and after decreasing to 4.8 percent in 1999, has stayed above 6.8 percent in each year since 2000 (International Monetary Fund, 2008). Nonetheless, economic transformation is also creating potential problems for the elderly, as the economic structure changes from agriculture-based to industrial production, and as urbanization proceeds with strong flows of labour from rural to urban areas. The growth of new industries and the service sector reduces the importance of agriculture, leading to many changes in the lives of the Vietnamese population. Foreign investment led to rural-urban migration and significant growth of Ho Chi Minh City and Hanoi in just a few years during the mid 1990s (Long *et al.* 2000).

Mason (1992) and Schwarz (2003) raise a concern that economic transformation with urbanization and increasing migration may weaken the traditional family structure and remove the traditional means to care for the elderly. Though great successes such as rapid poverty reduction and considerable improvement of living standards have been widely acknowledged, many groups of people, including the elderly, are still living in poor and vulnerable conditions (Le *et al.*, 2005). The majority of elderly are still living in rural and disadvantaged areas, and only a small percentage of the elderly in Vietnam are receiving public pensions, while others are living on their own and/or supported by family members (Ministry of Labour, War Invalids, and Social Affairs (MOLISA), 2005). In addition, a potentially worrisome issue for supporting the elderly is that the past decade witnessed a continuous decline in the multi-generational family model, in which the number of elderly who lived as dependents declined, while the number of elderly who lived alone or in households with only elderly increased (Giang and Pfau, 2007b; Institute of Labour Science and Social Affairs (ILSSA) and United Nations Population Fund (UNFPA), 2007).

This creates a worrying juxtaposition: the traditional family structure, in which children and extended families took care of their elderly relatives for housing, financial support, and other care, is under threat at the same time that the elderly population is growing. As rapid development changes the structure of families, elderly people may increasingly find few relatives living in their vicinity. Given the low coverage of the social security systems in Vietnam, the situation may become worse if there is not an appropriate response from the government to these continuing changes. Therefore, studies of various social and economic aspects of the elderly population need to be carried out thoroughly so as to understand appropriate responses for the social welfare policies. We will examine the experiences of Vietnamese families, how families are adapting, and whether there is any further role for public policy. Indeed, increasing geographic distance between family members does not have to mean that family relationships break down. Families could rely more on remittances, or new family structures could develop, such as skip-generation families in which grandparents live with their grandchildren. Using household surveys, we hope to present a detailed picture of evolving elderly living arrangements and remittance behaviour to see how families adapt and what stresses and risks remain.

As such, the purpose of this research is to assess the situation in Vietnam: are Vietnamese elderly able to maintain relations with their family members in spite of rapid economic changes? To pursue these objectives, we present our data and methodology, as well as advantages and limitations of the data. This is followed by our analysis. We consider the demographics and living arrangements of the elderly, as well as the scope and role of remittances. We use logistic regressions to understand determinants of remittance receipt and poverty for the elderly. The last part will present concluding remarks and policy suggestions. We find that the elderly population in Vietnam is growing increasingly older with higher proportions of 80 and 90 year olds, and that this is leading to more female and widowed elderly over time. Rural elderly still dominate urban elderly, but their proportion is decreasing over time as urbanization proceeds. About 60 percent of elderly are living in households with an elderly head of household, but it is worrisome to note that the portion of dependent elderly is declining in favour of elderly living alone. Nonetheless, in 1997/98, the survey year with the most comprehensive information, 73.1 percent of Vietnamese elderly were living with at least one child, and dependent elderly show a strong preference to live with a married son. Only 3.6 percent of elderly did not have any living children, while 69.9 percent of elderly had at least four living children, though we find that this proportion can be expected to decline as those in their 50s enter the elderly ranks. As for remittances, households headed by those aged 50 and older receive a disproportionate share of remittances, and children are very active in sending remittances to support their elderly parents. When we allow for a married couple to share the remittances received by one spouse, we find that 34.8 percent of Vietnamese elderly were receiving remittances in 1997/98. From the logistic regression analysis, we can further determine that living with children and remittances serve as substitutes for supporting the elderly, as living with children results in less remittances, and remittances and having more children outside the household do play an important role in reducing elderly poverty. Actually, living with more children is a factor positively correlated with elderly poverty, though this finding could result from the definition of poverty in Vietnam using a per-capita basis that does not account for economies of scale from living together.

Data and Methodology

In this paper, we use the Vietnam (Household) Living Standard Surveys for the years 1992/93, 1997/98, 2002, and 2004. These surveys were conducted by the General Statistics Office of Vietnam (GSO), along with other international agencies, as a part of the World Bank's Living Standard Measurement Surveys. Detailed descriptions of these surveys can be found in numerous research reports, such as Grosh and Glewwe (1998), GSO (2004 a, b), and World Bank (2000, 2001, and 2005).

// Table 1 About Here //

The surveys are organized by household, but they also include some characteristics for each individual in the household, such as age, gender, relationship to household head, marriage status, working status, salary, health, and education. This allows us to consider household living arrangements in detail. Table 1 shows the number of households and individuals interviewed for each survey. At the household level, the surveys provide extensive data on sources of income, business and agricultural enterprises, detailed household expenditures, ownership of consumer durables, poverty incidence, poverty alleviation programs, and housing conditions. The households are meant to be representative of the entire Vietnamese population, both urban and rural, and across the regions.

Remittances are defined in the surveys as the amount of money and monetary value of in-kind benefits received by a household from people not living in the household, which do not require repayment. With respect to information about remittances, we can think of the two surveys from the 1990s as similar to one another, but different from the two surveys in the 2000s. And generally speaking, the information about remittances in the 1990s surveys is much richer than in the 2000s surveys. For the 1990s, we know specific details about each remittance a family receives. This information includes which family member received it, the relationship of the remittance sender to the receiver, the gender of the sender, and where the sender lives, including which country if the remittance came from overseas. The 1990s surveys also include details about both remittances received and sent by each household, which allows a researcher to determine whether the household is a net receiver or sender, though we will not use this aspect of the data because Pincus and Sender (2008) and Pfau and Giang (2008b) demonstrate that remittance senders may actually be underrepresented in the survey data despite the intentions of the survey designers. For 1997/98, we even know how the household spent the remittances it received. Not all of these details are included in the 2002 and 2004 surveys, though. For the later surveys, we only know the total amount of remittances received by each household, divided into domestic and international remittances. Thus, in the later surveys we cannot discuss the relationship between the sender and receiver, whether the household is a net sender or receiver, or even which household member was the recipient.

Other general limitations of the data which bear some relevance to the topic of this paper include that we generally only have information about relatives who live in the same household (particularly in the later surveys), and therefore it is difficult to identify other relatives who may be living nearby or migrating to other areas. This means, for example, that while we know about receipt of remittances from children, we cannot say what percentage of non-coresident children provide them. The exception to this is that in 1997/98, we have a full report of the total number of children living in and out of the household for everyone in the survey. Some parts of our analysis will rely on this more complete picture provided by the 1997/98 survey.

In this paper, we will analyze our research objectives by using data tabulations to observe trends over time, as well as logistic regressions. We use the individual and household weights so that the results are as representative as possible for the Vietnamese population. The logistic models, which we will use to explain both the determinants of remittance receipt and the determinants of poverty for the elderly, allows us to determine which factors are significant after controlling for confounding influences. In the first case, the dependent variable is an indicator variable equal to one for elderly individuals receiving remittances and zero otherwise, and in the second case it is equal to one for poor elderly and zero otherwise. The explanatory variables provide a variety of household characteristics that may help to delineate who receives remittances or who tends to be poor. For each category, when compared to the reference group, an odds ratio of less than one means that the category is less likely to receive remittances or be poor, while a value of more than one indicates a greater likelihood. Statistical significance is indicated for the 5 percent level. The reported probability is how the estimated probability of receiving remittances or of being poor changes for that category in comparison to its reference group value, when other explanatory variables are equal to their mean values.

Demographics and Living Arrangements of Vietnam's Elderly

The four household surveys allow us to observe trends in the demographics and living arrangements of Vietnam's elderly. First, Table 2 provides general information about the Vietnamese elderly.

// Table 2 About Here //

From this table, we can observe the aging of the population in Vietnam, as among the elderly, the percentage of the elderly population in the older groups (70 and over) grew over time, while the proportion of the young elderly (60-69) was getting smaller. More specifically, the population aged 80 and older accounted for only 8.55 percent of the elderly population in 1992/93, but it accounted for 15.16 percent in 2004. Along with the aging process, we also could see an increasing percentage of female elderly (from 56.81 percent in 1992/93 to 58.42 percent in 2004) and widowed elderly (from 33.9 percent in 1992/93 to 36.99 percent in 2004), which is natural due to the longer lifespans of women.

By marital status, the majority of the elderly were married or widowed, while the percentage of the elderly with other marital statuses (divorced, separated, or never married) remained very small. The data also show that the majority of the elderly were living in rural areas (over 70 percent), but this percentage decreased over time on account of increasing urbanization. Moreover, the data show that almost half of the elderly were living in the Red River Delta and the Mekong River Delta, where agriculture-based activities are still popular.

By educational qualification, more than half of the elderly population did not have any qualification, but this proportion decreased over time. The elderly with primary and secondary qualifications accounted for about 20 percent and 11 percent of the elderly population, respectively. The percentage of the elderly with vocational and higher qualifications was still small, but it increased over time. This trend reflects the fact that younger people with more qualifications became elderly during the survey time period.

Next, Table 3 provides information about household living arrangements in the surveys. About 70 percent of the population lived in nonelderly households, and the remaining 30 percent lived in elderly households (defined as having at least one elderly member in them). For elderly households, we find that more than 70 percent of the elderly are living in households with at least one child. The majority of elderly lived in households where an elderly person was the household head (over 60 percent). In those households, it would be more reasonable to think of children as more dependent on their elderly parents, than vice versa. The fact that many households with an elderly head still had multiple children living at home supports this argument.

A potentially worrisome trend, meanwhile, is what appears to be a shift over time from households with dependent elderly to only elderly households. The percentage of the elderly living as dependents declined from 27.21 percent in 1992/93 to 17.72 percent in 2004, while the corresponding elderly living in only elderly households increased from 13.43 percent to 20.67 percent in the same period. Meanwhile, the percentage of elderly who were living alone grew from 3.47 percent in 1992/93 to 5.62 percent in 2004. Though not shown in the table, we further find that the situation of living alone was prevalent among female and rural residents.

Among the dependent elderly, over time the vast majority were found living with their married sons. This could be explained by the influence of the Confucian thoughts in family relations. Table 3 also shows that the trend to live with married sons exists, but to a much lesser extent, in the households where an elderly person was the household head.

// Table 3 About Here //

Meanwhile, Figure 1 more broadly shows the average number of children living at home and away from home for individuals between ages 30 and 85 in 1997/98 (as mentioned in the previous section, this is the only survey year with enough detailed information to be able to count all

children living outside the household). This figure cannot be used to directly compare the average number of children born to each cohort, because the averages are only calculated for people at each age who remain alive, and only children who are still living are counted. Nonetheless, several interesting trends emerge from the figure. First, once age is above the early 40s, there is a gradual and continuous decline in the number of children living in the households. By about age 55, more children live away from their parents than with their parents. Additionally, the total number of children peak for individuals in their 60s. While this cannot necessarily be compared to the older ages, because conditional on still being alive at higher ages it is likely that more of one's own children have already passed away, this situation does show that people in their 40s and 50s have fewer total children than people in their 60s, which could have implications for the future elderly who will need to be less reliant on children for support.

// Figure 1 About Here //

Finally, with regard to living arrangements, Table 4 adds further detail about the distribution of the number of children by elderly age groups in 1997/98. We can see that for the elderly as a whole, only 3.6 percent of elderly did not have any living children, and 26.9 percent of elderly did not live with children. In other words, 73.1 percent of elderly were living with their children. For elderly who do live with their own children, 46.1 percent live with one child, 22 percent live with two or three of their own children and 5 percent live with at least 4 children. And more generally, 69.9 percent of elderly have at least 4 living children. By age group, as one ages, there is an increasing tendency to live with one child, as this percentage increases from 33.9 percent for those aged 60-64, to 67.5 percent for those aged 90 and over. This growth is primarily due to living with fewer children, as the percentage of elderly living with no children does not show a clear trend among different age groups. Our analysis reveals that living with children is quite common for Vietnamese elderly, but underlying trends may reduce the opportunities for such living arrangements to play as large of role in the coming years.

// Table 4 About Here //

Scope and Role of Remittances for Vietnam's Elderly

We next consider the potential role for remittances in helping Vietnam's elderly population. First, we provide some background characteristics about remittances in Vietnam. The role of remittances in the Vietnamese economy is growing, as we document through the increasing percentage of households receiving and sending them. This information is in Table 5. First, regarding the households that received remittances, 20.7 percent of households (weighted by household size) received remittances in 1992/93, and this increased to 22.7 percent in 1997/98. Then, between 1997/98 and 2002, a major jump occurred as the percent of households receiving remittances grew to 80 percent in 2002 and 88.7 percent in 2004. Most of this growth occurred for domestic remittances though, as the percent of households receiving from international sources grew from only 5.6 percent in 1992/92 to 7.3 percent in 2004. Though not shown in the table, we also observe a trend of rapid growth in the proportion of domestic remittances. In 1992/93, 71.7 percent of the total value of remittance flows came from overseas sources, and this amount gradually reduced to 36.8 percent in 2004. Pfau and Giang (2009) describe the distribution of remittance amounts, showing that the size of international remittances is much larger than domestic remittances.

Next, to begin our discussion of the role for remittances in supporting the elderly, Table 6 provides information about the characteristics of households receiving remittances. We provide this information for total remittances received by households, but the trends are quite similar when examined separately for domestic and international remittances. For each survey year, there are three columns. First, the percentage of Vietnam's population represented by each category is shown. Then, we see the percentage of remittances received by the category group. The third column shows the ratio of remittances received to the portion of population represented by the group. If the ratio is above one, then the group receives a disproportionate share of remittances,

while those with a ratio less than one receive a relatively smaller share. The table shows that households headed by those aged 50 and older receive a disproportionate share of remittances compared to those headed by someone aged 20 to 49, and those 70 and over receive the most remittances. Here we can see evidence of remittances being used to support elderly family members, though this is a trend that weakens rather than strengthens over time as the proportion of elderly-headed households increase. Nonetheless, these numbers do not provide the full story because we do not know about who else is living with the household head for the purposes of this table. For instance, if a child moves back home to take care of elderly parents directly instead of providing remittances, then the table would show declining remittance flows to the elderly without properly characterizing the shift in type of support. Earlier, however, we provided some evidence regarding this matter by characterizing elderly households as those who are dependent on younger family members and those who are not. We found that the number of elderly living as dependents is declining in favour of elderly living alone. This implies that a breakdown is occurring as elderly also receive less remittances as well. We will further explore this issue using logistic regression, but first we consider more about the percentage of elderly receiving remittances and the relationship status between remittance senders and receivers.

// Table 6 About Here //

Next, Figures 2, 3, and 4 consider the percentage of elderly people receiving remittances in 1997/98 by gender and age, in which the percentages are defined in several ways. First, Figure 2 shows the percentage of elderly living in households that receive remittances. These percentages will be highest, since they do not require personal remittance receipt. Generally, we find an upward trend by age and about 30 to 50 percent of elderly are in households receiving remittances. In contrast, Figure 3 shows the lowest percentages, as it only shows the percentage of elderly who directly receive remittances. The average is 25.3 percent, and we find that men tend to receive remittances more frequently than women across the age distribution. Finally, Figure 4 shows the percentage of elderly who receive remittances, in which both elderly of a married couple are counted when one spouse receives remittances. In this case, 34.8 percent of elderly receive remittances, and now we find at younger ages that women tend to receive slightly more remittances than men. The reason for this, as Pfau and Giang (2008a) illustrate, is that for married couples there is a tendency for the husband to receive and send remittances instead of the wife.

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// Figure 4 About Here //

// Table 7 About Here //

For the 1990s surveys, we can learn about the relationship between the senders and receivers of remittances using Table 7. This analysis is not possible with the 2002 and 2004 surveys, because such details are missing from the survey questions. We find that for both domestic and international remittances, elderly people receive the vast majority of their remittances from their children or their children's spouses. For remittances from domestic sources, this amount is over 80 percent for all three elderly age groups in both survey years. For remittances from international sources, these figures are also high, but siblings and nieces and nephews also play a role. In the other direction, we can also find evidence that for younger people, parents are an important source of remittances from domestic sources, though we do not find much evidence of parents who live overseas sending remittances back to their children in Vietnam. For people aged 20 to 29, more than 50 percent of their domestic remittance receipts are from parents. This table indicates that remittances do flow from children to their parents, and from parents to their children, and that children are the primary source of remittances for their elderly parents.

To continue the analysis, Table 8 provides the results for a logistic regression model to determine which factors can explain remittance receipt. Two models are estimated, which correspond to the definitions used for Figures 3 and 4. First, we examine the factors that determine direct remittance receipt for elderly people, and then we re-estimate the results with the modification introduced by Pfau and Giang (2008a) assuming that whenever one member of a married couple receives remittances, they are shared equally between both spouses.

Table 8 provides a number of interesting trends for elderly remittance receipt. First, remittance receipt does vary by region, and urban elderly are more likely than rural elderly to receive remittances. For married couples, males are more likely to receive remittances. Once spouses share remittances though, elderly females do receive more remittances than males. We also confirm that elderly at higher ages do receive more remittances. Regarding living arrangements, we find that living with children does reduce the likelihood of elderly receiving remittances, while an increasing number of children living outside the household does correlate with increased remittance receipt for the elderly. This finding confirms a basic intuition that children may either support their parents by living together or by providing remittances. Next, though statistically significant, pension receipt does not have much practical impact on remittances. Receiving pensions reduces the chance of receiving remittances by 0.1 percent, but after sharing remittances between spouses the relationship between pensions and remittances is actually small and positive. Though pensions are not widespread in Vietnam at the present, we can at least find little evidence that pensions may be crowding out remittances as a form of elderly support. Another finding is that wealthier elderly are more likely to receive remittances, as there is a strong positive correlation between income quintile (where income was modified to exclude remittance receipts) and remittance receipt. Finally, working elderly are less likely to receive remittances, which could mean either that some elderly are able to work and do not need remittances, or that the lack of remittances forces elderly to work longer than they desire. More research is needed on this point.

// Table 8 About Here //

// Table 9 About Here //

Table 10 draws attention to the matter of poverty determinants for the elderly. Here poverty is measured according to the General Statistics Office of Vietnam's official definition of poverty, which is per capita expenditures within a household of less than 1,790,000 Vietnamese dong in 1997/98. Giang and Pfau (2008) provide more details about poverty measures in Vietnam. Table 9 shows that elderly poverty varies across regions, with lower poverty rates in the South East and the highest rates in the North West, after controlling for other factors. Urban elderly are also significantly less likely to be poor than rural elderly. Gender, age, and household size are not significant, though as Giang and Pfau (2008) explain, the official poverty measure in Vietnam ignores the potential economies of scale enjoyed when people live together, so that larger households will tend to be poorer as their total expenditures are distributed between more people. For this reason, widowed elderly appear less poor than married elderly, and elderly who live with their children are more likely to be poor. Nonetheless, as the number of children living outside the elderly household increases, elderly poverty is reduced, demonstrating the important role of child support even after controlling for remittances. As for remittances, the results show that remittance receipt tends to be correlated with higher poverty (as we modified household expenditures by removing remittance receipts), which demonstrates that poor elderly are more likely to receive remittances. Also important, we find that pension receipt helps to dramatically reduce poverty, and continued elderly employment also leads to lower poverty. Finally, poverty is reduced for households with a higher percentage of working aged members and increased for elderly households that include more members under age 15.

Conclusions and Policy Implications

We find that living with children and remittance receipt both provide important forms of support for Vietnam's elderly, though a number of trends confirm that we should worry about the future situation of the elderly as economic transformation continues. For instance, the increase in households with elderly living alone has not resulted from children becoming more independent, but rather from a decrease in elderly living as dependents of their children. This has occurred as the average age of the elderly is increasing, and as the elderly population consists of a growing portion of females and widows. Additionally, while 69.9 percent of the elderly have at least four living children in 1997/98, this number can be expected to further decline as Vietnamese in the 40s and 50s have fewer children than the current elderly. Vietnamese elderly continue to face vulnerabilities, and the problems for policy makers will intensify as the elderly population grows rapidly in the coming years.

However, though Vietnam's pension system still has low coverage, we find little evidence that pensions will crowd out remittances or other forms of elderly support, such that developing a comprehensive social pension system for the elderly provides an important avenue in which government policy can help promote elderly living standards. Toward this end, Giang and Pfau (2009) simulate how the poverty incidence of the elderly in Vietnam would have been changed in the presence of a social pension scheme. They consider a number of categorical targeting groups of elderly people along with various transfer parameters to assess the impacts of the scheme on their social welfare. While a universal pension scheme could cost as much as 2-3 percent of GDP, they consider a number of more limited programs costing about 1 percent of GDP that would still provide significant reductions to elderly poverty. In particular, they find evidence that focusing a program on rural elderly would be the most effective in a number of ways, and that the programs with lower eligibility ages and lower benefits would have a bigger impact on poverty than the programs with comparable costs that provide higher benefits but also have higher eligibility ages. For instance, a scheme providing to the rural elderly aged sixty and over a benefit of 60 per cent of official poverty line would be most successful in reducing the poverty gap and poverty severity and enhance utility by the most in comparison with other schemes costing about 1 percent of GDP. Expanding the pension system can provide an effective means to help elderly as other forms of family support becoming increasingly strained.

References

- GSO (General Statistics Office of Vietnam) (2004a) 'General Introduction of Vietnam Household Living Standard Survey 2002 (VHLSS2002)', (mimeo).
- GSO (General Statistics Office of Vietnam) (2004b) 'Main Differences between VLSS 1992/1993, VLSS 1997/1998, and VHLSS 2001/2002', (mimeo).
- Giang, L. T. and Pfau, W. D. (2007a) 'The Elderly Population in Vietnam during Economic Transformation: An Overview', in L. T. Giang and H. K. Duong (eds), *Social Issues in Vietnam in Economic Transition and Integration*. Hanoi: Vietnam Development Forum. Volume 1, p. 185-210.
- Giang, L. T. and Pfau, W. D. (2007b) 'Patterns and Determinants of Living Arrangements of the Elderly in Vietnam', in L. T. Giang (ed), *Social Issues in Vietnam in Economic Transition and Integration*. Hanoi: The Publishing House of Social Labour. Volume 2, p. 147-176.
- Giang, L. T. and Pfau, W. D. (2008) *The Vulnerability of the Elderly to Poverty: Determinants and Policy Implications for Vietnam*. Vietnam Development Forum Working Paper 087. Hanoi: VDF.
- Giang, L. T. and Pfau, W. D. (2009) 'Aging, Poverty, and the Role of Social Pensions in Vietnam', *Development and Change* 40 (2): 333-360.
- Grosh, M. E. and Glewwe, P. (1998) 'Data Watch: The World Bank's Living Standards Measurement Study Household Surveys', *Journal of Economic Perspective*, 12 (1): 187-196.
- IMF (International Monetary Fund) (2008) *World Economic Outlook*. Washington, DC: IMF.
- ILSSA (Institute for Labour Science and Social Affairs) and UNFPA (United Nations Population Fund) (2007) *Assessment on Social Pension for the Elderly Persons in Vietnam*. Hanoi: ILSSA and UNFPA.
- IDB (International Database, U.S Census Bureau) (2008) *Country Summary: Vietnam*. Washington, DC: US Census Bureau.
- Le, D. B.; Dang, A. N.; Khuat, H. T., Le, T. H. And Bach, R. L. (2005) *Social Protection for the Most Needy in Vietnam*. Hanoi: The World Publishing House.
- Long, L. D.; Le, N. H.; Trutt, A.; Le, T. P. M. and Dang, N. A. (2000) *Changing Gender Relations in Vietnam's Post Doi Moi Era*. Policy Research Report on Gender and Development Working Paper Series No. 14. Washington, DC: World Bank.
- Mason, K. O. (1992) 'Family Change and Support of the Elderly in Asia: What do We Know?', *Asia Pacific Population Journal* 7 (3): 13-32.
- MOLISA (Ministry of Labour, War Invalids, and Social Affairs in Vietnam) (2005) 'Mot so tinh hinh, so lieu ve nguoi cao tuoi o Vietnam' (The Current Situation and Data on the Elderly People in Vietnam). Hanoi: MOLISA Department of Social Protection.
- Pfau, W. D. and Giang, L. T. (2008a) 'Gender and Remittance Flows in Vietnam During Economic Transformation', *Asia-Pacific Population Journal* 23 (2): 13-32.
- Pfau, W. D. and Giang, L. T. (2008b) *Groups Excluded from 'Representative' Household Surveys: An Analysis Based on Remittances Sent and Received in Vietnam*. GRIPS Discussion Paper 08-15. Tokyo: GRIPS.
- Pfau, W. D. and Giang, L. T. (2009) 'Determinants and Impacts of International Remittances on Household Welfare in Vietnam', *International Social Science Journal* (Issue 194): forthcoming.

- Pincus, J. and Sender, J. (2008) 'Quantifying Poverty in Viet Nam: Who Counts?,' *Journal of Vietnamese Studies* 3 (1): 108-150.
- Schwarz, A. (2003) *Old Age Security and Social Pensions*. World Bank Social Protection Department (mimeo). Washington DC: The World Bank.
- United Nations (2007) *World Population Prospects: The 2006 Revision Population Database*. United Nations Population Division. New York: United Nations.
- World Bank (2000) *Vietnam Living Standards Survey (VNLSS), 1992-1993: Basic Information*. Poverty and Human Resources Division. Washington, DC: World Bank.
- World Bank (2001) *Vietnam Living Standards Survey (VLSS), 1997-1998: Basic Information*. Poverty and Human Resources Division. Washington, DC: World Bank.
- World Bank (2005) *The 2002 and 2004 Vietnam Living Standards Surveys (VHLSS 2002 and 2004)*. Presentation to introduce two surveys by the World Bank Vietnam. Retrieved from http://www.worldbank.org.vn/data/VHLSS2002_2004.ppt

TABLE 1
Number of Households and Individuals
in the Vietnam (Household) Living Standards Surveys

Year	Number of Households	Number of Individuals
1992/93	4800 (1504)	24068 (2047)
1997/98	6002 (2121)	28633 (2860)
2002	29530 (8759)	132384 (11940)
2004	9189 (2784)	39696 (3806)

Note: The number of elderly households and elderly people are in parentheses.

Source: Own calculations from VLSS 1992/3 & 1997/98, and VHLSS 2002 & 2004

TABLE 2
Demographic Characteristics of the Vietnamese Elderly Population
(Percentage of elderly across demographic categories)

Age	1992/93	1997/98	2002	2004
60 – 64	36.15	29.65	26.68	26.88
65 – 69	24.33	27.59	24.7	22.75
70 – 74	20.17	20.03	21.58	21.18
75 – 79	10.8	12.45	13.53	14.03
80 – 89	7.72	9.13	11.57	12.85
90 and older	0.83	1.15	1.94	2.31
Gender				
Male	43.19	41.93	42.79	41.58
Female	56.81	58.07	57.21	58.42
Marital Status				
Married	64.05	61.63	61.69	60.51
Widowed	33.9	35.81	36.44	36.99
Other	2.05	2.56	1.87	2.5
Urban / Rural Status				
Urban	22.27	25.94	23.17	26.67
Rural	77.73	74.06	76.83	73.33
Region				
Red River Delta	23.95	23.78	25.35	25.78
North East	13.11	13.73	10.89	10.46
North West	1.83	1.73	2.13	1.93
North Central Coast	13.06	14.48	13.87	12.59
South Central Coast	10.89	8.68	9.79	9.93
Central Highlands	2.03	1.85	4.01	3.4
South East	13.61	15.55	14.03	15.36
Mekong River Delta	21.52	20.2	19.93	20.55
Education Qualification				
No	63.48	62.28	60.57	58.41
Primary	20.77	21.46	22.16	22.34
Secondary	11.47	12.34	12.53	12.61
Vocational	2.19	2.03	2.8	4.04
Higher	2.09	1.89	1.94	2.6

Source: Own calculations from VLSS 1992/93 & 1997/98, and VHLSS 2002 & 2004

TABLE 3
Living Arrangements of the Vietnamese Population
Percentages Across Demographic Categories

	1992/93	1997/98	2002	2004
Percentage of Total Population Living in Each Type of Household				
No Elderly	67.8	66.0	70.0	68.8
Elderly Head with Nonelderly	18.8	18.4	19.6	20.2
Dependent Elderly	12.3	13.8	8.6	9.0
Only Elderly	1.1	1.9	1.7	2.1
Percentage of Elderly Living in Each Type of Household				
Elderly Head with Nonelderly	59.4	54.9	63.4	61.6
Dependent Elderly	27.2	26.7	18.0	17.7
Only Elderly	13.4	18.4	18.6	20.7
Elderly Living Arrangements				
Only One Elderly Person	3.5	4.9	5.3	5.6
Only Elderly Married Couple	9.5	12.7	12.5	14.4
Other Group of Only Elderly	0.5	0.7	0.8	0.6
Elderly Spouse of Nonelderly	2.6	2.3	2.6	2.3
Elderly Head, Unmarried Son	6.6	7.1	7.1	8.2
Elderly Head, Married Son	9.8	10.7	15.9	4.1
Elderly Head, Unmarried Daughter	6.4	5.5	7.2	6.0
Elderly Head, Married Daughter	1.4	1.4	2.2	1.3
Elderly Head with Multiple Children	27.8	23.6	23.5	35.5
Elderly Head, Other Situation	4.7	4.3	4.8	4.5
Elderly Dependent, Unmarried Son	1.0	0.9	0.5	0.3
Elderly Dependent, Married Son	17.7	17.6	14.3	13.3
Elderly Dependent, Unmarried Daughter	2.0	2.3	0.9	0.8
Elderly Dependent, Married Daughter	1.0	1.5	1.2	1.4
Elderly Dependent, Grandchildren	0.7	0.7	0.8	1.1
Elderly Dependent, Other Situation	4.8	3.6	0.4	0.5

Source: Own calculations from VLSS 1992/93 & 1997/98, and VHLSS 2002 & 2004

TABLE 4
Distribution of Number of Children Living In and Out of Household
For Vietnamese Elderly in 1997/98

Age Group	Children Living in Same Household: Percentage Distribution			
	0	1	2-3	4+
60-64	21.4%	33.9%	35.1%	9.5%
65-69	26.8%	43.4%	24.2%	5.6%
70-74	30.7%	51.8%	15.3%	2.2%
75-79	32.4%	57.0%	9.7%	1.0%
80-89	28.8%	63.9%	7.1%	0.3%
90 +	25.4%	67.5%	7.2%	0.0%
Elderly Total	26.9%	46.1%	22.0%	5.0%

Age Group	Children Living in Different Households: Percentage Distribution			
	0	1	2-3	4+
60-64	9.2%	9.2%	27.7%	53.9%
65-69	8.9%	7.6%	24.5%	59.0%
70-74	15.1%	7.6%	20.9%	56.3%
75-79	20.2%	5.2%	24.7%	49.9%
80-89	35.1%	6.9%	27.8%	30.3%
90 +	59.1%	11.8%	11.6%	17.5%
Elderly Total	14.6%	7.7%	24.9%	52.8%

Age Group	Total Number of Children: Percentage Distribution			
	0	1	2-3	4+
60-64	2.9%	3.7%	15.7%	77.7%
65-69	3.0%	4.6%	16.0%	76.5%
70-74	3.3%	11.2%	15.9%	69.6%
75-79	2.8%	17.9%	19.6%	59.7%
80-89	8.6%	26.4%	20.0%	45.0%
90 +	17.5%	38.5%	21.8%	22.3%
Elderly Total	3.6%	9.7%	16.8%	69.9%

Source: Own calculations from VLSS 1997/98

TABLE 5
Percentage of Households Receiving Remittances
Based on Origin of Remittances

	1992/93	1997/98	2002	2004
Households Receive Remittances From:				
No Remittances	79.3%	77.3%	20.0%	12.3%
Domestic Remittances	16.1%	17.8%	77.3%	86.7%
International Remittances	5.6%	5.6%	5.9%	7.3%

Note: Table columns do not sum to 100 percent because households receiving both domestic and international remittances are counted twice.

Source: Own calculations from VLSS 1992/93 & 1997/98, and VHLSS 2002 & 2004

TABLE 6
Flow of Remittance Receipts in Vietnam
Based on Age of Household Head

	1992/93			1997/98			2002			2004		
	Percent of Population	Percent of Remittances Received	Ratio of Remittances to Population	Percent of Population	Percent of Remittances Received	Ratio of Remittances to Population	Percent of Population	Percent of Remittances Received	Ratio of Remittances to Population	Percent of Population	Percent of Remittances Received	Ratio of Remittances to Population
Age of Household Head												
20 - 29	10.7%	5.1%	0.5	5.4%	3.4%	0.6	5.0%	4.9%	1.0	3.2%	3.0%	0.9
30 - 39	29.6%	29.2%	1.0	28.3%	20.4%	0.7	26.2%	19.5%	0.7	23.1%	13.5%	0.6
40 - 49	22.5%	12.5%	0.6	29.4%	25.1%	0.9	31.5%	25.8%	0.8	32.4%	29.7%	0.9
50 - 59	18.3%	23.6%	1.3	17.8%	17.3%	1.0	17.0%	17.7%	1.0	20.0%	22.5%	1.1
60 - 69	13.1%	15.4%	1.2	13.4%	18.4%	1.4	11.5%	15.4%	1.3	11.5%	14.7%	1.3
70 - 79	4.9%	11.5%	2.4	4.9%	11.2%	2.3	7.0%	12.9%	1.9	7.4%	12.7%	1.7
80 - 89	0.7%	2.8%	3.8	0.8%	4.2%	5.5	1.7%	3.3%	1.9	2.1%	3.3%	1.5
90 and older	0.1%	0.0%	0.0	0.1%	0.1%	2.2	0.2%	0.3%	1.7	0.3%	0.5%	1.9

Source: Own calculations from VLSS 1992/93 & 1997/98, and VHLSS 2002 & 2004

TABLE 7
Relationship of Sender to Receiver: Domestic and International Remittances in 1992/93
Weighted by Remittance Amount

Domestic Remittances	Age of Recipient							
	Total	20 - 29	30 - 39	40 - 49	50 - 59	60 - 69	70 - 79	80 - 89
Relationship of Sender to Receiver								
Grandchild	3.2%	0.2%	0.1%	0.0%	1.5%	10.0%	2.8%	5.8%
Child / Child-in-law	39.1%	1.1%	0.5%	28.9%	47.7%	80.5%	87.1%	92.5%
Spouse	12.2%	23.5%	22.8%	16.6%	7.7%	0.8%	1.2%	0.0%
Sibling, Sibling-in-law, Niece or Nephew	18.8%	15.6%	31.7%	30.7%	25.5%	3.8%	4.8%	0.0%
Parent / Parent-in-law	19.9%	53.0%	38.8%	11.5%	4.7%	2.3%	0.7%	1.7%
Grandparent	0.5%	1.6%	0.2%	0.1%	0.0%	0.0%	0.0%	0.0%
Other relatives	5.1%	4.6%	3.9%	10.9%	11.0%	2.1%	2.7%	0.0%
Nonrelatives	1.2%	0.4%	1.9%	1.3%	1.9%	0.6%	0.6%	0.0%

International Remittances	Age of Recipient							
	Total	20 - 29	30 - 39	40 - 49	50 - 59	60 - 69	70 - 79	80 - 89
Relationship of Sender to Receiver								
Grandchild	1.9%	0.7%	0.7%	0.2%	3.1%	0.1%	5.9%	4.7%
Child / Child-in-law	40.2%	12.8%	6.6%	8.9%	62.2%	63.8%	82.2%	85.6%
Spouse	4.0%	34.2%	7.0%	8.2%	0.0%	0.0%	0.0%	0.0%
Sibling, Sibling-in-law, Niece or Nephew	38.7%	32.3%	64.6%	53.4%	22.9%	31.3%	6.6%	2.5%
Parent / Parent-in-law	10.0%	1.5%	19.5%	9.4%	8.6%	0.0%	3.3%	0.0%
Grandparent	0.1%	2.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Other relatives	3.1%	3.2%	1.2%	10.9%	1.6%	4.0%	1.9%	7.2%
Nonrelatives	2.1%	13.2%	0.5%	8.9%	1.6%	0.8%	0.0%	0.0%

Relationship of Sender to Receiver: Domestic and International Remittances in 1997/98

Domestic Remittances	Age of Recipient							
	Total	20 - 29	30 - 39	40 - 49	50 - 59	60 - 69	70 - 79	80 - 89
Relationship of Sender to Receiver								
Grandchild	0.5%	0.0%	0.0%	0.2%	1.7%	0.2%	1.0%	2.9%
Child / Child-in-law	44.8%	1.5%	2.7%	10.5%	65.9%	88.5%	87.0%	86.2%
Spouse	8.9%	13.7%	8.1%	27.8%	8.3%	0.4%	0.0%	0.0%
Sibling, Sibling-in-law, Niece or Nephew	18.7%	13.6%	41.6%	21.1%	16.9%	6.1%	1.8%	4.8%
Parent / Parent-in-law	17.9%	54.0%	34.8%	26.0%	1.8%	1.3%	7.7%	2.2%
Grandparent	0.6%	3.9%	0.1%	1.1%	0.0%	0.2%	0.4%	0.0%
Other relatives	4.9%	11.0%	5.5%	8.0%	2.6%	2.1%	1.3%	3.9%
Nonrelatives	3.7%	2.4%	7.2%	5.4%	2.8%	1.2%	0.8%	0.0%

International Remittances	Age of Recipient							
	Total	20 - 29	30 - 39	40 - 49	50 - 59	60 - 69	70 - 79	80 - 89
Relationship of Sender to Receiver								
Grandchild	4.2%	0.0%	0.0%	3.5%	4.8%	5.1%	9.8%	4.6%
Child / Child-in-law	36.7%	2.0%	0.7%	11.8%	48.8%	69.7%	78.6%	84.7%
Spouse	5.6%	53.7%	11.6%	6.0%	0.0%	0.0%	0.2%	0.0%
Sibling, Sibling-in-law, Niece or Nephew	33.2%	22.1%	36.8%	55.1%	34.4%	19.4%	5.7%	1.5%
Parent / Parent-in-law	5.6%	0.0%	23.6%	2.0%	3.8%	0.9%	4.3%	8.8%
Grandparent	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%
Other relatives	12.7%	18.5%	22.8%	20.7%	3.7%	4.8%	0.5%	0.6%
Nonrelatives	2.0%	3.7%	4.6%	1.0%	4.5%	0.1%	1.0%	0.0%

Source: Own calculations from VLSS 1992/93 and 1997/98

TABLE 8
Logistic Model of Remittance Determinants
for Vietnamese Elderly People in 1997/98

	Percent of Elderly Receiving Remittances = 25.3%		"Spouses Share" Modification Percent of Elderly Receiving Remittances = 34.8%	
	Odds Ratio	Prob.	Odds Ratio	Prob.
Region				
Red River Delta	0.798*	-0.037	0.820*	-0.042
North East	0.577*	-0.083	0.599*	-0.103
North West	0.580*	-0.079	0.440*	-0.149
North Central Coast	1.593*	0.086	1.834*	0.14
South Central Coast	1.011*	0.002	1.058*	0.012
Central Highlands	0.449*	-0.107	0.457*	-0.144
South East (reference)	1	---	1	---
Mekong River Delta	0.711*	-0.054	0.717*	-0.07
Urban / Rural Status				
Rural (reference)	1	---	1	---
Urban	1.468*	0.068	1.620*	0.109
Marital Status of H. Head				
Married (reference)	1	---	1	---
Widowed	2.318*	0.151	0.632*	-0.097
Otherwise Not Married	2.388*	0.179	0.776*	-0.052
Gender of Household Head				
Male (reference)	1	---	1	---
Female	0.423*	-0.146	1.126*	0.026
Age				
Age	0.956*	-0.008	0.957*	-0.009
Age Squared	1.297*	0.044	1.336*	0.063
Number of Children				
# Living in Household	0.727*	-0.054	0.724*	-0.07
# Living outside Household	1.249*	0.038	1.271*	0.052
Pension Receipt				
None (reference)	1	---	1	---
Yes	0.994*	-0.001	1.015*	0.003
Position in Income Distribution (Income Modified to Exclude Remittance Receipts)				
1st Income Quintile (reference)	1	---	1	---
2nd Income Quintile	1.119*	0.019	1.251*	0.05
3rd Income Quintile	1.542*	0.078	1.531*	0.096
4th Income Quintile	1.944*	0.123	1.909*	0.148
5th Income Quintile	2.556*	0.18	2.942*	0.25
Work Status of H. Head				
Not Working (reference)	1	---	1	---
Working	0.785*	-0.041	0.774*	-0.055
Unweighted Sample Size	2841		2841	
Pseudo R²	0.127		0.136	

Source: Own estimates from VLSS 1997/98

Notes: * indicates significance at the 5% level. Probabilities are calculated at the mean values of the explanatory variables. "Spouses share" represents our modification in which spouses who live together share the remittance with one another.

TABLE 9
Logistic Model of Poverty Determinants
for Vietnamese Elderly People in 1997/98
(Poverty Measure is Modified to Consider Expenditures Net of Remittance Receipts)

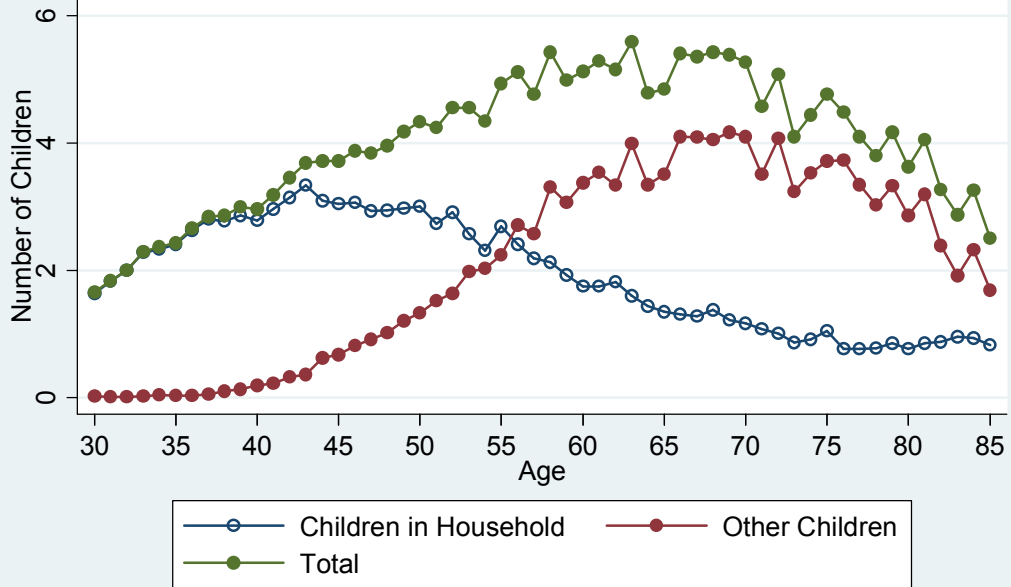
Mean Modified Poverty Rate of Elderly = 37.9%		
	Odds Ratio	Prob.
Region		
Red River Delta	3.149*	0.268
North East	5.975*	0.419
North West	16.226*	0.569
North Central Coast	3.605*	0.305
South Central Coast	3.105*	0.27
Central Highlands	3.452*	0.298
South East (reference)	1	---
Mekong River Delta	2.956*	0.254
Urban / Rural Status		
Rural (reference)	1	---
Urban	0.353*	-0.207
Marital Status of H. Head		
Married (reference)	1	---
Widowed	0.725*	-0.069
Otherwise Not Married	0.857	-0.033
Gender of Household Head		
Male (reference)	1	---
Female	1.147	0.03
Age		
Age	1.03	0.007
Age Squared	0.938	-0.014
Number of Children		
# Living in Household	1.143*	0.029
# Living outside Household	0.895*	-0.024
Pension Receipt		
None (reference)	1	---
Yes	0.392*	-0.179
Work Status of H. Head		
Not Working (reference)	1	---
Working	0.742*	-0.064
Percentage of Household Aged 15-59	0.202*	-0.348
Percentage of Household Aged Under 15	12.278*	0.545
Log of Household Size	0.867	-0.031
Remittance Receipt		
None (reference)	1	---
Yes	1.782*	0.131
Unweighted Sample Size	2841	
Pseudo R²	0.162	

Source: Own estimates from VLSS 1997/98

Notes: * indicates significance at the 5% level. Probabilities are calculated at the mean values of the explanatory variables.

FIGURE 1

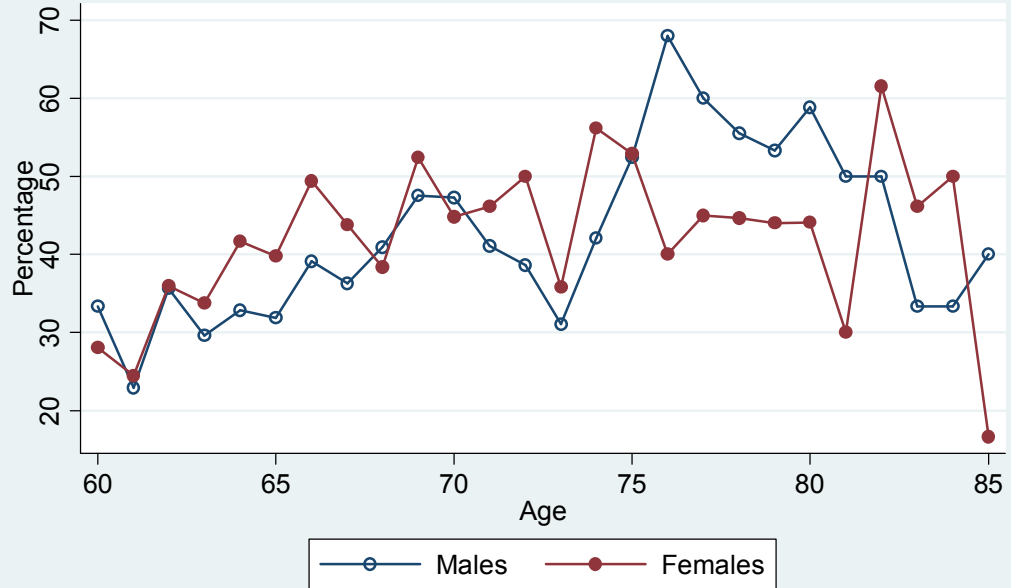
Average Number of Children Living at Home and Away by Age in 1997/98



Source: Own calculations from VLSS 1997/98

FIGURE 2

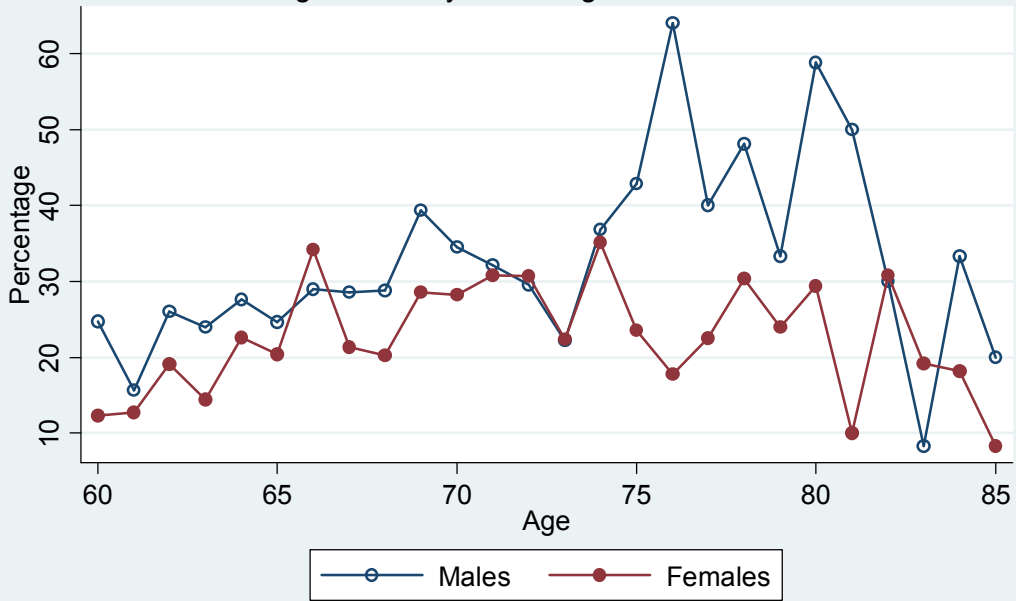
Percentage of Elderly in Households Receiving Remittances in 1997/98



Own calculations from VLSS 1997/98

FIGURE 3

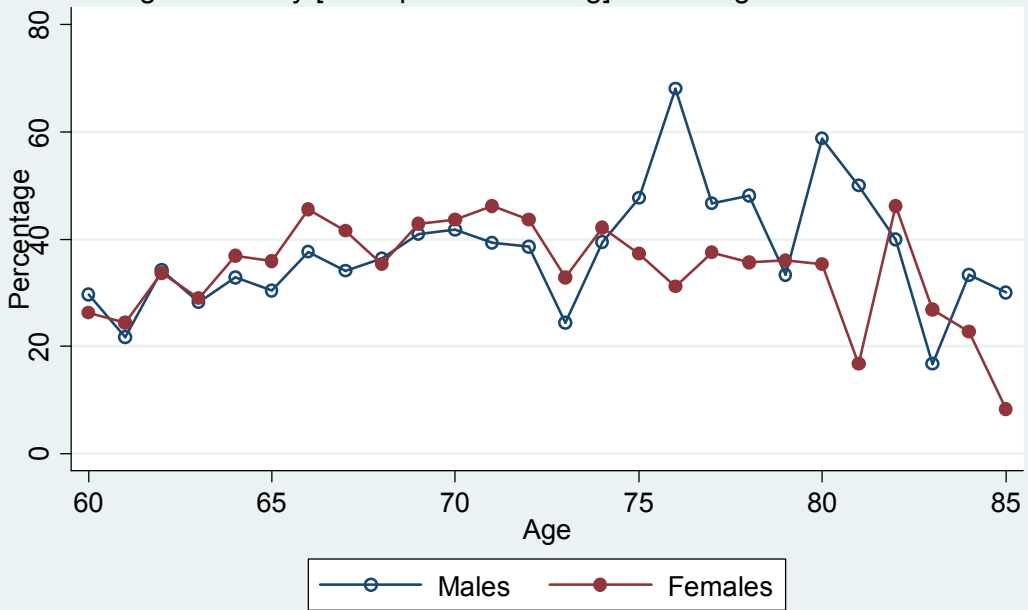
Percentage of Elderly Receiving Remittances in 1997/98



Own calculations from VLSS 1997/98

FIGURE 4

Percentage of Elderly [with spouses sharing] Receiving Remittances in 1997/98



Own calculations from VLSS 1997/98