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THE VULNERABILITY OF THE ELDERLY HOUSEHOLDS TO POVERTY: DETERMINANTS AND POLICY IMPLICATIONS FOR VIETNAM

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The vulnerability of the elderly households to poverty: Determinants and policy implications for Vietnam

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Abstract

By using household data in 2004, this paper identifies the determinants of the elderly poverty in Vietnam. We find that urban and rural elderly are substantially different, and thus they should be analyzed separately. The results for urban areas generally show that higher ages, unmarried status, residential regions, and working status have significant impacts on the likelihood of poverty for the elderly. In rural areas, higher ages, female, unmarried status, ethnic minorities, residential regions, household composition, and household size are determinant factors of the likelihood of poverty for the elderly. We also found some factors which are less important for both areas, including characteristics of household heads. Remittances and social security benefits appear to be important for reducing poverty of the elderly households, particularly in the rural areas. Based on findings, we formulate policy priorities, including reducing regional disparities, promoting the rural economy, and reforming the social security system.

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1. Introduction

Rapid declines in fertility rates and mortality rates along with substantial improvements in health care systems have resulted in the growth of elderly populations around the world, and this trend is expected to continue in the coming years. With the definition of an elderly person as aged 60 years and over, the medium-variant population projections of the United Nations show that the number of elderly people will increase from 672 million in 2005 (or 10 percent of the world population) to around 2 billion people in 2050 (or 22 percent of the world population) (United Nations, 2007). Particularly for the developing countries that will grow old before becoming rich, population aging in the coming decades poses various challenges to governments' public policies for protecting the elderly. Under such changes as well as profound social and economic changes stemming from modernization and urbanization, the weakening of family bonds also suggests an urgent task for the old age security in developing countries, because most of them have underdeveloped social security systems with extremely limited coverage (Schwarz, 2003).

As one of the fastest growing economies in the world, Vietnam is also experiencing the changes just described. The above-mentioned population projections indicate that the elderly population in Vietnam will increase significantly from 7.5 percent of the whole population in 2005 to about 26 percent in 2050. Moreover, swift economic transformation since the renovation programs in 1986, known as *Doi moi*, has had significant impacts on all areas of society, resulting in substantial improvements in living standards for many people, including the elderly. However, while such remarkable successes have been widely acknowledged, many groups of elderly people are still living in poor and vulnerable conditions, as the majority of elderly are living in rural, isolated, and disadvantaged areas (Le et al., 2006). 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 (MOLISA, 2005). In addition, a potentially worrisome issue for supporting the elderly is that the past decade has witnessed a continuous decline in the number of elderly who lived as dependents, and a continuous increase in the number of elderly who lived alone or in households with only elderly (Giang and Pfau, 2007a). Thus, any reduction in family support caused by the aforementioned trends will leave the elderly behind with further vulnerabilities. The above situation demands that policy makers and social researchers provide more attention to discussing and creating social welfare programs that can protect the millions of elderly people in Vietnam during these rapid social and economic changes. To do so, it is necessary to identify the possible factors that make the elderly and their households vulnerable to poverty.

The number of studies on the elderly population in Vietnam has grown rapidly in the past decade, and different survey data have been used to analyze the elderly people and their households. For example, Hirschman and Vu (1996) use the 1991 Vietnam Life History Survey, which was a survey of 403 households during January–March 1991 in the Red River Delta and the Mekong River Delta, to analyze living arrangements of the elderly families. Another set of two regional surveys, which were conducted for the elderly in the Red River Delta (including Hanoi) in 1996, and in Ho Chi Minh City (HCMC) and its six adjacent provinces in 1997, has been used extensively in many studies, such as Truong et al. (1997), Bui et al. (1999), Knodel et al. (2000), and Friedman et al. (2001). These surveys provide various information about rural and urban diversity, household composition, and household relations in terms of support and care.

In addition to surveys of limited geographic areas, a variety of studies also use larger survey samples representative of Vietnam's entire population to accomplish different research goals. Knodel and Truong (2002) use the 5 percent public use sample of the 1989 Census and the 3 percent public use sample of the 1999 Census to compare living arrangements of the elderly and their households over time. Recently, Barbieri (2006), and Pfau and Giang (2007) use the Vietnam Living Standard Survey (VLSS) 1997/98 to analyze flows of remittances between the elderly and their children. Giang and Pfau (2007a, b), using the VLSS 1992/93 and 1997/98 and the Vietnam Household Living Standard Survey (VHLSS) in 2002 and 2004, provide analyses of the elderly living arrangements, housing, working status and housework, and poverty status. Regarding social welfare for the elderly, Bui et al. (1999), and Friedman et al. (2001) present analyses on the patterns of the elderly work and employment to propose policy directions to reform the welfare system for the elderly, while Giang and Pfau (2008) examine the potential role and impacts of a non-contributory pension scheme to protect the elderly people.

At the same time, there have been many studies focusing on the situation of poverty and inequality in Vietnam during economic transformation and integration (see, for instance, Nguyen and Dinh, 1999; Justino and Litchfield, 2003; World Bank et al., 2004; and Minot et al., 2006). To the best of our knowledge, however, these studies do not analyze the determinant factors of poverty incidence for the elderly and their households. Recently, only one study by Evans et al. (2007) discusses the relationship between old age and poverty in Vietnam, in which the authors focus on the impacts of social security benefits and remittances, as well as determinants of the poverty status of the elderly households. Nevertheless, this study uses only the aggregate data for all the elderly households without distinguishing urban and rural areas, which are substantially different in terms of social, economic, and physical conditions (Tran, 2007).

Guided by both research and policy needs on such questions as which types of the elderly households are most vulnerable to poverty, and what policy implications can be found, this paper aims to describe the current status of the elderly poverty in Vietnam, and explore the possible factors underlying the situation. We will use a number of individual and household characteristics of the elderly for our research purposes. The remainder of the research is organized as follows. We will delineate data, methodology, and variables in Section 2. The empirical results and analysis will be presented in Section 3. In Section 4, we will discuss some policy implications for reducing poverty for the elderly and their households. The final section will provide concluding remarks.

Briefly, we find that the elderly and their households in urban and rural areas are significantly different, and therefore they should be considered separately. In both areas, some individual characteristics of the elderly, such as advanced ages, unmarried status, and residential regions, are crucial determinants of the likelihood of poverty for the elderly. However, some household characteristics are found insignificant factors to determine the likelihood of poverty for the elderly. Particularly in the rural areas, remittances and social security benefits are found to be important to reducing poverty of the elderly households. We argue that reducing regional disparities, promoting the rural economy, and reforming the social security system are key policy strategies for reducing poverty incidence for the elderly and their households.

2. Data, Methodology, and Variables

2.1. Data

To pursue the research objectives, we will use the Vietnam Household Living Standard Survey in 2004 (namely VHLSS 2004). This is one of the four household surveys in Vietnam over the past decade 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 (LSMS). Detailed descriptions and results of this survey can be found in World Bank (2005). The data are representative for the entire Vietnamese population, both urban and rural areas, and across the regions.

The survey is organized by household, but it also includes some characteristics for individuals in the household, such as age, gender, relationship to the household head, marital status, working status, salary, health, and educational attainment. This structure lets us identify the elderly people (aged 60 and over), as well as the elderly households (which include at least one elderly). The VHLSS 2004 includes 39,696 people in 9,189 households, in which the number of elderly people and the number of elderly households are 3,806 and 2,784, respectively.

At the household level, the survey provides such extensive data as sources of income, business and agricultural enterprises, detailed household expenditures, ownership of consumer durables, poverty incidence, poverty alleviation programs, social insurance, wealth, and housing conditions. At the communal level, the surveyed households represent 3,061 communes.

In addition to the household survey, VHLSS2004 also has a community survey for 2,181 communes, which covers a lot of information of each local area, such as total area, population, agricultural activities, traditional handicraft villages, communal and inter-communal roads and markets, car passable roads, national electricity network, irrigation system, and incidence of natural disasters. However, the communal data are not representative for the elderly population, and thus we cannot use them in our analysis.

The data, however, also have some drawbacks, which in turn limit our analysis. For instance, besides wages, most income sources are only identified at the household level, so it is not clear which member is the source of the income. Similarly, expenditure is also identified at household level, so we do not know who is spending. Wealth data are only available at the household level. These problems obstruct the analysis of intra-household sharing.

2.2. Methodology

As mentioned earlier, the main aim of this research is to examine the current status and determinants of poverty incidence of the elderly and their households. We will first provide the current status of poverty of the elderly and their households with a variety of characteristics. We will then identify the determinants of such poverty by using a number of individual and household characteristics. The former include age, gender, marital status, ethnicity, and working status, while the latter consist of residential regions, household living arrangements, household composition, household head characteristics, as well as receipts of social security benefits and remittances. Finally, based on the estimated results, we will discuss policy recommendations for reducing poverty for the elderly and their households.

Measuring Poverty

To estimate poverty rates for the elderly households, we will use the official poverty line by the GSO, which is measured by per capita expenditure. The elderly poverty rate is, therefore, defined as percentage of the elderly whose per capita expenditure was lower than the official poverty line, which was 2077 thousand Vietnamese dong (VND) in 2004.

To examine the sensitivity of poverty measures to the poverty line, we will introduce three additional poverty lines: (1) 50 percent of the official poverty line, which indicates extreme poverty; (2) 125 percent of the official poverty line, which indicates high vulnerability to poverty; and (3) 200 percent of the poverty line, which implies the situation in which the non-poor are unlikely to face hardship.

Identifying the Determinants of Poverty of the Elderly and their Households

In order to get more precise estimates, we will first conduct Chow tests for the samples of elderly living in urban and rural areas, and the samples of male and female elderly. If the null hypothesis, i.e. there are no significant differences between samples, is rejected, we will conduct two separate models for these sub-samples.

Second, in order to identify the determinants of elderly poverty, we will construct a probit model. Variables representing for the individual and household characteristics of the elderly will be considered under the four poverty thresholds. An elderly household i (i=1, 2,…, N, where N is the total number of elderly households) is considered to be poor (p_i=1) if its per-capita expenditure is below the poverty lines. The probability of being poor can be estimated by a probit model as follows:

$$P(p_i = 1) = \beta_i X_i + e_i \quad (1)$$

where X_i represents a collection of relevant characteristics of the elderly and their households, β_is are the respective coefficients, and e_i is error term.

In addition, for each independent dummy variable, one of the sub-groups representing for that variable will be chosen as reference group. For instance, as will be mentioned later, variable "age" includes three sub-groups, i.e. 60-69; 70-79; and 80 and over, and we will choose 60-69 group to be reference group. A negative and statistically significant coefficient shows that the comparative group was less likely to be poor than was the reference group, while a positive and statistically significant coefficient indicates that the comparative group was more likely to be poor than was the reference group.

2.3. Variables

In the probit model, the variables representing individual characteristics of the elderly include:

(1) *Age*: The elderly will be divided into three groups, including young elderly (aged 60–69); older elderly (aged 70–79), and oldest elderly (aged 80 and over). We will use the young elderly as the reference group.
(2) *Gender*: We will use female as the reference group in our analysis.
(3) *Marital status*: We will compare between married elderly and non-married elderly. The latter include widowed, divorced, separated, and never-married elderly. The non-married elderly will be the reference group.

(4) *Ethnicity*: We will compare Kinh and non-Kinh (or ethnic minority) elderly population, in which non-Kinh elderly will be the reference group.
(5) *Working status*: We will compare between working and non-working elderly people, in which the latter will be the reference group.

Also, we will use the following variables representing household characteristics of the elderly in our probit model:

(1) *Living arrangements*: We divide the elderly households into three groups: (i) the households with only elderly; (ii) the households where the elderly are living with their children; and (iii) the households where the elderly are living with others, but no children. The first group will be the reference group.
(2) *Residential regions*: We will use eight economic regions in Vietnam, including Red River Delta, Northeast, Northwest, North Central Coast, South Central Coast, Central Highlands, Southeast, and Mekong River Delta. The Northwest will be the reference region.
(3) *Household composition*: We will use three variables for this category, including (i) the percentage of the elderly household's members who are under 15 years old; (ii) the percentage of the elderly household's members who are at working age (15-60 years old); and (iii) log of the elderly household size, which is measured by the number of household members.
(4) *Head of the household*: We will consider three variables representing for this category, including (i) the elderly households headed by a female, in which the households that are not headed by a female will be the reference group; (ii) the elderly households headed by a working person, in which the group of non-working household head will be the reference group; and (iii) the formal education of the household head, in which we compare the heads who have primary and lower education with those who have secondary and above education. The latter group will be the reference group.
(5) *Receiving social security benefits*: We will use the elderly households that are not receiving any social security benefit as the reference group. Social security benefits comprise social insurance benefits (pension, on-time sickness, and job loss allowance), and social welfare allowance.
(6) *Receiving remittances*: We will use the elderly households that do not receive any remittances as the reference group in our estimation. Receipts of remittances include both domestic and international remittances.

3. Analysis of Empirical findings

Our discussion will first provide a number of characteristics and the current poverty status of the elderly and their households in Vietnam under four different poverty thresholds. Then, we will present a detailed analysis about the possible factors determining such poverty incidence.

3.1. Demographic Characteristics and Poverty Status of the Elderly in Vietnam

Table 1 provides general information about the elderly in Vietnam in 2004 for a number of characteristics.

[Table 1 about here]

By age, young elderly accounted for about 50 percent of the elderly population, while the oldest elderly accounted for about 15 percent. However, as indicated in Giang and Pfau

(2007a), the Vietnamese population is aging, as the former had declining trend, while the latter had increasing trend over the past decade. The estimates show that, by all four poverty thresholds, the elderly at more advanced ages generally had higher poverty rates than did the younger elderly.

About 60 percent of the elderly were married. The result (not shown) even shows that more than 95 percent of elderly were married or widowed. The elderly with other marital statuses (divorced, separated, and never married) accounted for only 4 percent of the elderly population. By all four poverty thresholds, the married elderly had significantly lower poverty rates than did their non-married counterparts.

Regarding gender, female elderly were dominant. In general, female elderly had a higher poverty rate than did their male counterparts. Going further with marital status and living arrangements, Giang and Pfau (2008) find a worriedsome situation that more than 80 percent of elderly living alone were rural female elderly.

About 90 percent of the elderly were Kinh people, while the non-Kinh elderly (from the other 53 ethnic minorities in Vietnam) accounted for only 10 percent. By all the poverty thresholds, it is obvious that there was a substantial difference between these two groups of elderly, in which the Kinh elderly had significantly lower poverty rate than did their ethnic minority counterparts. In addition to various disadvantaged physical and human resources, such a great difference of poverty incidence could be illustrated by an estimate that if the minorities had the same endowments as Kinh households, they could close no more than a third of the gap in their expenditures (Baulch et al., 2002).

In terms of residential areas, more than 70 percent of the elderly were still living in rural areas. This number, however, has been declining over the past decade on the account of the emerging urbanization (Giang and Pfau, 2007a). The results show that, by any of four poverty thresholds, the urban elderly had a substantially lower poverty rate than did their rural counterparts. Similarly, the results for residential regions show that more than 70 percent of the elderly were living in the four largest agricultural regions in Vietnam, i.e., the Red River Delta, the Northeast, the Southeast, and the Mekong River Delta. The elderly living in these regions had lower poverty rates than did the elderly living in other regions. In particular, by all four poverty thresholds, the elderly living in the Northwest region had the highest poverty rate (e.g. 53.2 percent with the official poverty line), meaning that their poverty incidence was really severe. At the same time, the elderly living in the Southeast region experienced a very low poverty rate (e.g. 2.8 percent with the official poverty line).

By living arrangements, more than 75 percent of the elderly were living with their children, and about 20 percent of the elderly were living in the households with only elderly. As shown in Giang and Pfau (2007a), the percentage of households with only elderly tended to increase, while the percentage of the elderly living with children tended to decrease over the past decade. The estimated results in Table 1 show that the elderly households with only elderly had the highest poverty rate, while the households where the elderly were living with others had the lowest rate.

It is really striking to find that the households with working elderly had a higher poverty rate than did the households with non-working elderly. This situation might reflect that working was a need for the former to overcome poverty. Finally, only 35 percent of the elderly were in households receiving social security benefits. The number was even much lower when

considering only pensions (Giang and Pfau, 2008). The results show that the recipient elderly households experienced a lower poverty rate than did their non-recipient counterparts.

3.2. Determinants of the Poverty for the Elderly and their Households

Before estimating the probability of poverty for the elderly and their households with a probit model, we use Chow tests for the samples of the elderly living urban and rural areas, as well as the samples of male and female elderly. Our estimates (not shown) indicate that, at 1 percent significance level, the urban and rural samples of elderly are significantly different, while those for male and female elderly are not significantly different. Therefore, we will conduct two separate probit models for urban and rural samples of the elderly and their households. As such, we have 917 and 2,889 elderly in the urban and rural models, respectively.

In addition, as the number of urban elderly who lived under 50 percent of the official poverty line was really small (only 0.1 percent), we will consider only three poverty thresholds, i.e., the official threshold, 125 percent of the official threshold, and 200 percent of the official threshold, for the urban model.

[Tables 2 and 3 about here]

Table 2 presents the estimated results for urban areas, while Table 3 provides the estimated results for rural areas. We consider statistical significance at 10 percent, 5 percent, and 1 percent significance levels. A negative and statistically significant coefficient shows that the comparative group was less likely to be poor than was the reference group, while a positive and statistically significant coefficient indicates that the comparative group was more likely to be poor than was the reference group.

Urban Areas

Regarding individual characteristics, Table 2 generally shows that the urban elderly were found to be insignificantly different from each other with regard to their poverty rates, in terms of gender, ethnicity, and education, once we control for other factors. The married elderly were less likely to poor than were the non-married elderly, but there would be no difference between these two groups when the poverty threshold was at 200 percent of the official poverty line. Similar trends are found for the working and non-working elderly, but it is striking that the urban working elderly would be more likely to be poor than the urban non-working elderly when the poverty threshold was at 200 percent of the official poverty line. As explained earlier, working might be an imperative for the elderly and their household to overcome poverty.

By age, the estimates based on the official poverty line show that the elderly at more advanced ages were more likely to be poor than were the younger elderly. The same findings are observed with higher poverty thresholds as well.

At the household level, the estimates for residential regions by all three poverty thresholds generally show that the elderly households living in the Northwest region were more likely to be poor than were those living in other regions. This situation could be reflected by a fact that the severity of poverty in the Northwest region has not been significantly reduced as did in other regions over the past decade. Such slow progress could be due to two main reasons: low

endowments of physical and human capital, and geographic and cultural remoteness of the minorities (Gaiha and Thapa, 2007).

In terms of elderly living arrangements, the estimates did not show differences in likelihood of poverty, except that households where the elderly were living with their children would be less likely to be poor than households with only elderly when the poverty threshold was at 200 percent of the official poverty line. This situation might indicate that children, especially who were at working ages, would be a valuable sources of income for the elderly households.

By household composition, the percentage of under−15 members in the urban elderly households did not show any impact on the likelihood of poverty. This might be explained by a fact that the average household size of the urban elderly households was small. This could also be elucidated by the estimates for the log of household size, in which the coefficient would only be positive and statistically significant when the poverty threshold was at 200 percent of the official poverty line. Conversely, the estimates for the percentage of working age members in the urban elderly household provide a negative and statistically significant coefficient with the official poverty threshold, meaning that the higher the percentage of working members was, the lower the likelihood of poverty for the urban elderly households. It is obvious because such households might be more likely to get larger sources of income from their working age members.

Regarding characteristics of the household head, the estimates for all cases under the three poverty thresholds generally show that these characteristics did not have any impacts on the likelihood of poverty of the urban elderly households.

The social security benefits and remittances did not show any differences of poverty likelihood between recipient and non-recipient elderly households at the official poverty threshold. However, at higher poverty thresholds, these benefits provide negative and statistically significant coefficients for the recipient households. In other words, the recipient households were less likely to be poor than those who were non-recipients of such benefits. As such, social security benefits and remittances would play an important role in mitigating poverty risk for the urban elderly households.

Rural Areas

Table 3 provides interesting findings for the rural elderly and their households. By age, we again can see that the elderly at more advanced ages were more likely to be poor than their younger counterparts. Particularly, even with the extreme poverty thresholds, we could observe the same situation as those of other three thresholds, meaning that the elderly at more advanced ages would be facing a lot of vulnerabilities to poverty.

In terms of gender, except the extreme poverty level, all the estimates under the other three poverty thresholds show that the rural female elderly were more vulnerable to poverty than their male counterparts. Similarly findings are observed with the groups of married and non-married elderly, in which the former were less likely to be poor than were the latter, as the estimated coefficients for the group of married elderly are negative and statistically significant at 1 percent significance level. In other words, the non-married elderly people were vulnerable to poverty risk.

By any measure of poverty thresholds for rural areas, the estimates indicate that the ethnic minority elderly people were more vulnerable to poverty risk than were their Kinh counterparts. The situation could be explained similarly as in the urban model, as most of the ethnic minority elderly people are living in remote or disadvantaged areas, where economic and physical conditions are far lagged behind the central rural or urban areas where most of Kinh people are living.

At the household level, the regional factor did not provide clear differences among the rural elderly households in terms of likelihood of poverty. Whenever the estimated coefficients are statistically significant, however, it is shown that, by any of four poverty thresholds, the elderly households living in the four largest agricultural production regions were less vulnerable to poverty than those living in the Northwest region. The fact that these four regions, especially with Hanoi, HCMC, and many industrializing provinces, are more advanced than the other regions, including the Northwest, could explain this finding. Conversely, the elderly households living in the North Central Coast and the South Central Coast appeared to be more vulnerable to poverty than did the elderly living in the Northwest. To explain this finding, we indeed need to consider a number of communal factors in these regions, such as infrastructure development or incidence of natural disasters, which are not discussed in this research.

Regarding the elderly living arrangements, the estimates show that, at the extreme poverty and official poverty thresholds, the households where the elderly were living with children or with others did not provide any differences in likelihood of poverty in comparison with the households with only elderly. However, the situation changes as we use the latter two poverty thresholds. In particular, the estimated results show that the household where the elderly were living with children would be less vulnerable to poverty than those with only elderly. This might indicate that living with children would mitigate poverty risk for the elderly people. However, this comment needs to be concretely judged with the estimates for household composition.

As can be seen, the estimates for the variable representing the percentage of under−15 members show that, at all four poverty thresholds, the more children the rural elderly household had, the more likelihood of poverty the household would experience. Given an assumption that children were not economically active members of the elderly households, the child dependency ratio would be higher in the elderly households with more children. The result may also be partly due to the fact that poverty is measured on a per-capita basis, with no adjustment made for children who may need less expenditures than adults. This in turn would have negative impacts on the poverty status of the households. Conversely, all the estimates under the four poverty thresholds for the variable representing the percentage of working age members indicate that, the more working age members the rural elderly households had, the less likely they are to be poor.

The estimated results for the variables representing characteristics of the elderly household head, including female, formal educational level, and working status, generally indicate that these factors did not have significant impacts on the likelihood of poverty for the rural elderly households.

Although the percentage of the rural elderly households receiving social security benefits was small (only 21.8 percent), the estimated results indicate that social security benefits would be really important for reducing poverty of the recipient elderly households in rural areas. At the

thresholds of 125 percent and 200 percent of the official poverty line, the negative and statistically significant coefficients show that the recipient elderly households were less vulnerable to poverty than were their non-recipient counterparts.

Regarding remittances, the findings show that, at all poverty measures, receipts of remittances would help the elderly households in rural areas to reduce their likelihood of poverty. This finding is consistent with some recent studies on the impacts of remittances on the Vietnamese household welfare, such as Pfau and Giang (2007) and Evans et al. (2007).

4. Policy Discussion

The challenges posed by an aging population in Vietnam have emerged as an important problem for social policy makers, as both absolute and relative numbers of the elderly have been increasing over the past decade. The current structure of the elderly population provides an opportunity for Vietnam in designing and creating the welfare system, as the share of the elderly is still less than 10 percent, and a large proportion of the elderly is actively contributing to their households and the country in various ways (NACSA, 2006; Giang and Pfau, 2007a; and Evans et al., 2007). This does not mean, however, that Vietnam can delay social welfare policies toward an expected aging population, which will obviously pose various policy challenges. The decomposition of the current elderly population by a number of indicators, such as by urban and rural areas or by ethnicities, indicates that the elderly people are diverse, and many of them are facing a lot of social and economic difficulties, which in turn make them and their families vulnerable to poverty. As shown in this research, significant differences between the elderly living in rural and urban areas may impede the efforts to narrow the gap between the two areas, if there are no policy measures to respond such a large gap. Based on our analysis, we can distill the following directions to formulate policy priorities in light of emerging concerns on the elderly population.

First, the elderly at advanced ages are apparently more vulnerable to poverty. Under swift urbanization as well as stronger flows of domestic and international migration, these people may be left behind with further vulnerabilities. Therefore, these groups of elderly people would have more priorities in designing any social welfare policy.

Second, gender inequality among the elderly, especially in rural areas, also needs to be prioritized in all social and economic agendas. Various studies, including this one, have shown that the rural female elderly are facing more vulnerabilities than are their rural male counterparts in a number of ways, such as lower average educational levels and higher poverty rates. Since the majority of elderly people are still living in rural areas and are engaging in agriculture-related activities, diversifying the rural economy with more access to credit and non-farm activities would help them to overcome economic difficulties, as well as support them to have healthy and active lives.

Third, worsening of inequality between economic regions is another great challenge for protecting the elderly living in disadvantaged and remote regions. Without additional efforts and resources, regions lagging behind may be unlikely to catch up, and thus the local people, including the elderly, will forever experience chronic poverty. Promoting non-farm activities, especially local industrial manufacturing production, will help poor regions to grow. This in turn will help to avoid a large flow of migration from poor rural areas to urban areas, which is now posing a lot of challenges in urban management. Regarding ethnic minority people, especially elderly, without appropriate policy measures their chronic poverty may erupt into

conflict and disruption on a large scale (Gaiha and Thapa, 2007). Therefore, further investments in physical, economic, and human resources for the highly disadvantaged regions will benefit millions of people, including the elderly.

Fourth, in both urban and rural areas, the working–age population is playing an important role in economic development and security. Particularly for the elderly households in rural areas, this group of people is a positive factor in reducing the likelihood of poverty for their households. Therefore, policies aimed at creating employment for this group are extremely imperative. Vocational training, credit provision, and non-farm production are some of possible measures to pursue such policies.

Fifth, under rapid changes stemming from economic transformation and integration, a comprehensive social security system aiming at protecting vulnerable groups, including elderly, is not only desirable, but also unavoidable. An integrated national system of social security is an urgent policy challenge, as a lot of efficiency-equity issues need to be thoroughly considered. For instance, Giang (2004 and 2006) suggest that the current pension scheme in Vietnam move toward a partially funded defined-contribution scheme in order to achieve both financial stability and generational equity. Similarly, Weeks et al. (2004), Justino (2005), and Giang and Pfau (2008) also argue that an introduction of a universal non-contributory pension scheme in Vietnam will significantly help the elderly people to reduce poverty incidence.

Sixth, remittances are actually helping millions of households, especially in rural areas, to overcome various economic difficulties. However, policies toward both domestic and international remittances need to be considered in dynamic ways. Recently, along with increasing flows of domestic remittances, there has also been a large flow of migrants moving from rural to urban areas. Under limited management capacity and resources, such situation has resulted in numerous social and economic problems, such as low-quality health care, discriminatory education, and unsecured living arrangements, in both departure and arrival places of the migrants (Pham, 2007). Therefore, regarding this issue, it is necessary that policy makers work on both urban and rural areas. Some policy directions toward managing migration and promoting remittances can be considered, such as reducing “pull” and “push” factors so as to promote rural development without huge flows of migration, encouraging non-farm activities, especially industrial manufacturing and services, promoting social networks for migrants, and taking various stakeholders into policy making processes.

5. Concluding Remarks

Undergoing rapid social and economic changes, an aging society produces a potential concern for public policy, particularly the welfare policies for protecting the elderly. Under current social and economic changes, as well as limited coverage of the social protection system, it is suggested that Vietnam have an appropriate social security system for protecting the elderly. To do so, it is necessary to know the poverty incidence of the elderly and their households as well as the possible factors underlying the situation. By using the VHLSS 2004 with a variety of individual and household characteristics of the elderly, this research could pursue the above-mentioned research objectives.

We have shown that urban and rural elderly are differentiated by a variety of aspects, and policies aiming at their protection need to be considered in dynamic ways. In other words, such policies will not only focus on the elderly population, but also deal with a lot of

development issues for the country as a whole. Without appropriate policy measures, existing problems, such as regional disparities and gender inequality, will impede the country toward a more prosperous society.

Though this paper could present a number of findings, as well as propose policy priorities in the coming time toward a healthy and active elderly population in Vietnam, it could not avoid some limitations. First, the official measurement of poverty used in this paper has some potential biases because it is established for the household as a whole rather than for particular individuals (Deaton, 1997; and Schwarz, 2003), and thus it is really difficult to show the relative poverty and vulnerability of the elderly in comparison with those of the rest of the population, which in turn depends on how resources are shared within the household. Similarly, large households may bear less burdens than the official measure because of economies of scale in their expenditures for housing and other goods. In particular, if the size of the elderly household is smaller, we may see a rise in elderly poverty relative to the rest of the population. Second, due to unrepresentative communal data for the elderly population, we could not examine the potential impacts of the communal variables, even though we believe that they are important to determining quality of life of the elderly and their households.

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Table 1: Demographic Characteristics and Poverty Status of the Elderly, 2004

Indicators	Percent of Elderly Population	Poverty Rates for Varying Poverty Lines			
		50% Official	Official	125% Official	200% Official
Elderly People		***1.5***	***17.9***	***29.8***	***58.6***
Age					
60 – 69	49.7	0.9	14.7	25.4	54.3
70 – 79	35.2	1.8	21.0	33.3	62.7
80 and older	15.1	2.6	21.0	35.7	63.3
Gender					
Male	41.6	1.2	16.4	27.6	55.9
Female	58.4	1.7	18.9	31.3	60.6
Marital Status					
Married	60.5	1.2	15.8	27.4	56.4
Non-married	39.5	2.0	21.1	33.4	62.0
Kinh People?					
Yes	90.1	0.8	14.8	26.1	56.2
No	9.9	7.6	45.7	63.1	81.2
Areas					
Urban	26.7	0.1	4.3	8.8	23.7
Rural	73.3	2.0	22.8	37.4	71.3
Region					
Red River Delta	25.8	0.7	16.3	27.6	57.8
North East	10.5	1.3	25.2	42.5	72.5
North West	1.9	4.6	53.2	66.1	80.0
North Central Coast	12.6	4.3	31.2	45.6	71.0
South Central Coast	9.9	2.8	21.6	34.0	67.3
Central Highlands	3.4	3.7	24.1	42.9	68.1
South East	15.4	0.3	2.8	7.3	23.8
Mekong River Delta	20.6	0.5	13.1	25.4	63.4
Living Arrangements					
Only Elderly	20.7	1.8	16.8	28.4	57.9
With Children	75.5	1.4	18.6	30.6	59.7
With Others, no Children	3.8	1.1	10.5	20.1	41.4
Working?					
Yes	43.9	1.3	18.4	30.6	63.1
No	56.1	1.7	17.5	29.2	55.1
Receiving Social Security?					
Yes	34.9	1.3	15.7	26.5	51.5
No	65.1	1.5	18.6	30.8	60.8

Source: Authors' calculations using VHLSS 2004.

Table 2: Results of the Probit Model for Urban Areas

Variables	Varying Poverty Lines		
	Official	125% Official	200% Official
Individual Characteristics			
Age			
60-69 (ref.)	--	--	--
70-79	0.307*	0.269*	0.280***
80+	0.570**	0.810***	0.603***
Gender			
Female (ref.)	--	--	--
Male	-0.356	-0.630**	-0.197
Marital Status			
Unmarried (ref.)	--	--	--
Married	-0.470*	-0.365**	-0.014
Kinh People?			
No (ref.)	--	--	--
Yes	-0.265	-0.214	-0.217
Working?			
No (ref.)	--	--	--
Yes	0.093	0.446*	0.598***
Household Characteristics			
Regions			
North West (ref.)	--	--	--
Red River Delta	-0.798**	-0.716**	-1.082***
Northeast	-0.642*	-0.710**	-0.855**
North Central Coast	-1.045**	-0.508	-0.799**
South Central Coast	-1.267***	-1.261***	-0.986***
Central Highlands	-0.663	-0.324	-0.515
Southeast	-1.816***	-1.782***	-1.745***
Mekong River Delta	-1.046***	-0.798**	-0.522
Living Arrangements			
Only Elderly (ref.)	--	--	--
With Children	-0.076	-0.218	-0.378*
With Others	-0.504	-0.588	-0.416
Percentage of Under 15	0.916	0.420	0.587
Percentage of Working Age	-0.886	-0.716	-0.332
Log of Household Size	0.107	0.152	0.406***
HH headed by a Female?			
No (ref.)	--	--	--
Yes	-0.335	-0.585*	0.063
HH Head is Working?			
No (ref.)	--	--	--
Yes	-0.219	-0.426	-0.388
Education of HH Head			
Secondary and Above (ref.)	--	--	--
Primary and Lower	0.321	0.706**	0.295
Receiving Social Security?			
No (ref.)	--	--	--
Yes	-0.284	-0.143	-0.259**
Receiving Remittances?			
No (ref.)	--	--	--
Yes	-0.185	-0.560***	-0.561***
No. of Observations	917	917	917
LR $\chi^2(22)$	58.33	111.68	167.95
Prob > χ^2	0.0001	0.0000	0.0000
Pseudo R^2	0.1525	0.1779	0.1538

Note: *, **, and *** denote statistically significant coefficient at 10 percent, 5 percent, and 1 percent significance level, respectively.
Source: Authors' calculations using VHLSS 2004.

Table 3: Results of the Probit Model for Rural Areas

Variables	Varying Poverty Lines			
	50% Official	Official	125% Official	200% Official
Individual Characteristics				
Age				
60-69 (ref.)	--	--	--	--
70-79	0.358**	0.254***	0.235***	0.182***
80+	0.633***	0.235**	0.277***	0.215**
Gender				
Female (ref.)	--	--	--	--
Male	-0.150	-0.144*	-0.133*	-0.153**
Marital Status				
Unmarried (ref.)	--	--	--	--
Married	-0.212	-0.358***	-0.250***	-0.438***
Kinh People?				
No (ref.)	--	--	--	--
Yes	-1.203***	-0.952***	-0.972***	-0.736***
Working?				
No (ref.)	--	--	--	--
Yes	-0.172	-0.040	-0.040	0.113
Household Characteristics				
Regions				
North West (ref.)	--	--	--	--
Red River Delta	0.208	-0.260	-0.148	0.189
Northeast	-0.335	-0.472***	-0.171	0.240
North Central Coast	0.732***	0.148	0.226	0.391**
South Central Coast	0.718**	-0.133	0.015	0.419**
Central Highlands	0.480	-0.311*	0.032	0.312
Southeast	0.080	-1.070***	-0.786***	-0.433**
Mekong River Delta	-0.090	-0.624***	-0.453***	-0.038
Living Arrangements				
Only Elderly (ref.)	--	--	--	--
With Children	-0.425	-0.166	-0.212**	-0.292***
With Others	-0.449	-0.315	-0.173	-0.446**
Percentage of Under 15	1.118**	1.227***	1.370***	1.163***
Percentage of Working Age	-1.156**	-1.450***	-1.266***	-1.101***
Log of Household Size	0.267	0.373***	0.434***	0.564***
HH headed by a Female?				
No (ref.)	--	--	--	--
Yes	0.155	-0.121	-0.019	-0.205*
HH Head is Working?				
No (ref.)	--	--	--	--
Yes	0.286	0.140	0.108	0.027
Education of HH Head				
Secondary and Higher (ref.)	--	--	--	--
Primary and Lower	-0.233	-0.071	-0.044	-0.014
Receiving Social Security?				
No (ref.)	--	--	--	--
Yes	-0.011	-0.094	-0.114*	-0.215***
Receiving Remittances?				
No (ref.)	--	--	--	--
Yes	-0.462***	-0.264***	-0.222***	-0.304***
No. of Observations	2889	2889	2889	2889
LR χ^2 (22)	144.49	470.12	505.09	336.79
Prob > χ^2	0.0000	0.0000	0.0000	0.0000
Pseudo R^2	0.2382	0.1467	0.1309	0.0984

Note: *, **, and *** denote statistically significant coefficient at 10 percent, 5 percent, and 1 percent significance level, respectively.
Source: Authors' calculations using VHLSS 2004.