Chapter 1

Expanding Cash Transfer Program to Tackle Old-Age Poverty in Viet Nam: An *Ex-Ante* Evaluation

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By using the Viet Nam Household Living Standards Survey (VHLSS) from 2008, this paper quantifies the potential impacts of various cash transfer programs on old-age poverty in Viet Nam. We use static micro-simulation techniques to estimate how such programs could reduce such poverty. We consider three targeted groups of elderly people along with four age thresholds to evaluate the potential impacts. We find that a cash transfer program would be influential in reducing old-age poverty. More importantly, our micro-simulation results indicate that, given limited funding, targeting the rural elderly would be most effective for poverty reduction, and that a program providing lower benefits to a higher number of beneficiaries would be better in reducing poverty incidence than a program providing higher benefits to a lower number of beneficiaries.

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1.   Introduction

According to the Population and Housing Census of 2009 (GSO, 2010a), the proportion of the elderly (people aged 60 and over) in Viet Nam's population was about 8.7 percent. Population projections by GSO (2010 b) show that the Vietnamese population will reach the aging threshold by 2017 and the elderly population will account for 26 percent of the total population by 2050.[1]

At the same time, under swift socio-economic changes since *Doi moi* (renovation) programs, there has been a significant transformation of household living arrangements, in which the traditional extended family has been replaced by the nuclear family. As such, the past decade has witnessed a continuous decline in the number of households where the elderly were living as dependents, while during the same period there has been a continuous increase in the number of households where the elderly were living alone or with other elderly people (Giang and Pfau, 2007). Also, due to large flows of migration, Viet Nam has experienced an increase in the so-called 'skip-generation', families where old-age grandparents are living with grandchildren, particularly in rural areas. Regarding social protection, only a small percentage of the Vietnamese elderly are receiving public contributory pensions or social allowances, while most are living on their own and/or supported by family members (MoLISA, 2005). Thus, weakening familial support and a fragile social protection system will leave the elderly with various poverty risks and vulnerabilities.

Such demographic and familial changes has resulted in the Government of Viet Nam (GoV) playing a more crucial role in providing a social safety net for vulnerable and poor elderly people. Among a number of programs aiming to reduce poverty incidence, the GoV introduced a monthly cash transfer program to some specific groups

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[1] According to Cowgill and Holmes (1970) (as quoted in Andrews and Philips, 2006), a population is classified as 'aging' when the elderly (65 and over) account for 7 to 9.9 percent of the total population. Similarly, 10-19.9 percent of people 65 and over identifies a population which is 'aged'; a population with 20-29.9 percent people of 65 and over is 'very aged' and more than 30% describes a population which is 'hyper aged'. This categorization is used by the United Nations and other international organizations. In this paper, however, we use this definition only when we compare the demographic status of Viet Nam with other countries. In the main part of the paper, an elderly is defined as a person aged 60 and over, and we use the term 'aging', 'aged', 'very aged', and 'hyper-aged' population when the elderly population accounts for 10 percent, 20 percent, 30 percent and 35 percent, respectively.

of elderly people. This program was implemented in 2004 to provide a minimum monthly benefit of VND 65,000 (about $US 4)[2] to all elderly people aged 90 and over who did not have a contributory pension and not eligible for other special social allowances. In April 2007 (under Decree 67/2007/ND-CP), the minimum eligible age was reduced to 85, and the minimum monthly benefit was increased to VND 120,000 (about $US 7). In 2010 (under Decree 13/2010/ND-CP), the minimum eligible age was reduced to 80, and the minimum monthly benefit was increased to VND 180,000 (about $US 9). Recent studies show that this program has helped a number of elderly citizens to cope with poverty incidence, but has been unable to lift them out of poverty (see, for instance, ILSSA and UNFPA, 2007; Pham and Castel, 2010; World Bank, 2010). Even NACSA (2006) shows that, due to a number of administrative and monitoring weaknesses, about two-thirds of eligible individuals in some provinces did not receive any benefits.

As such, given the low coverage of the contributory pension scheme as well as potential risks due to economic fluctuations, expanding the current cash transfer program will become an important policy response to tackle poverty for the elderly in Viet Nam. For any developing country like Viet Nam, however, the 3-A questions (i.e., Adequacy of benefits, Acceptability of stakeholders, and Affordability) are always concerns of the government.

Guided by such facts and policy questions, this paper aims to provide an *ex-ante* evaluation of the potential impacts of expanded cash transfer programs for various types of elderly people on old-age poverty reduction. We consider different elderly groups at different age thresholds as well as personal conditions (such as the elderly living in rural areas or elderly females). The impacts will be indicated by reductions in old-age poverty rates and poverty gaps. We will also provide cost projections for these programs to see whether they will be financially feasible in the long-term under an aging population in Viet Nam.

The paper is organized as follows. In section II, we will analyze the situation of the aging population and old-age poverty in Viet Nam in order to provide rationales for

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[2] The minimum benefit level is considered as a baseline level for different types of beneficiaries. Depending on specific conditions, beneficiaries can receive an amount of money being equal to the baseline level multiplied by a specific factor.

expanding the current cash transfer program. In section III, we will review previous studies using *ex-ante* evaluation techniques to provide results on the potential impacts of cash transfers on elderly poverty reduction. Then, in Section IV, we will present data and methodology, in which we will describe poverty measurement and micro-simulation assumptions and procedures. The findings and policy implications will be discussed in Section V. The last section of the paper will provide concluding remarks.

2.   Aging and Old-Age Poverty in Viet Nam

Over the past three decades, since Viet Nam started population and family planning policies aimed at reducing fertility rates, the Vietnamese population has changed substantially in terms of age structure, in which the elderly population has grown at the highest pace in comparison with other population groups in both absolute and relative terms (UNFPA Viet Nam, 2011). The recent population projections by GSO (2010b) indicate that the elderly population in Viet Nam will continue increasing in the coming decades, from about 9 percent of the total population in 2009 to 26 percent in 2050. Two of the most important issues of an aging population in Viet Nam include the growth of the 'oldest old' (Table 1) and the feminization of aging (Table 2).

Table 1. The Vietnamese Population: Rapid Growth of 'Oldest Old'

Age Group (% total population)	1979	1989	1999	2009	2019	2029	2039	2049
60-64	2.28	2.40	2.31	2.26	4.29	5.28	5.80	7.04
65-69	1.90	1.90	2.20	1.81	2.78	4.56	5.21	6.14
70-74	1.34	1.40	1.58	1.65	1.67	3.36	4.30	4.89
75-79	0.90	0.80	1.09	1.40	1.16	1.91	3.28	3.87
80+	0.54	0.70	0.93	1.47	1.48	1.55	2.78	4.16
Total	6.96	7.20	8.11	8.69	11.78	16.66	21.37	26.10

Source: Population and Housing Census 1979, 1989, 1999 and 2009; GSO (2010).

Table 2. Sex Ratio of the Old-Age Population in Viet Nam, 2009

Age Group	60-69	70-79	80+
Females per 100 males	131	149	200

Source: Population and Housing Census 2009.

Table 1 shows that the 'oldest old' group (80+) has increased significantly over time in terms of percentage of total population. The results from Table 2 indicate that when reaching a more advanced age, there are many more females than males, and widowhood and living-alone are more common for females than for males. These facts in turn require the government to address various issues related to aging and gender.

Moreover, the swift economic transformation since the *Doi moi* (renovation) programs in 1986 has had significant impacts on all areas of society, resulting in substantial improvements in living standards for many people, including the elderly. However, the benefits of such growth have not been shared equitably among population groups, resulting in a large number of elderly people being left behind in poor and vulnerable living conditions, as the majority of the Vietnamese elderly are still living in rural areas (Table 3), where economic development has always lagged behind that of urban areas due to low endowments (Gaiha and Thapa, 2007).

Table 3. Distribution of the Elderly Population in Viet Nam

	1992/93	1997/98	2002	2004	2006	2008
Rural	77.73	76.06	76.83	73.33	72.30	72.49
Urban	22.27	23.94	23.17	26.67	27.70	27.51

Source: VLSS 1992/93 and 1997/98; VHLSS 2002-2008.

Also, because of large flows of migration, Viet Nam has experienced a decreasing trend of households where the elderly are living with children, while experiencing an increasing trend of households with only elderly persons or of the elderly living alone (Table 4).

Table 4. Living Arrangements of the Vietnamese Elderly, 1992/93-2008

Year	1992/93	1997/98	2002	2004	2006	2008
With children	79.73	74.48	74.27	70.65	63.74	62.61
Living alone	3.47	4.93	5.29	5.62	5.91	6.14
Only elderly couple	9.48	12.73	12.48	14.41	20.88	21.47
With grand-children	0.68	0.74	0.82	1.09	1.16	1.41
Other	6.64	7.12	7.14	8.23	8.31	8.37
Total	100	100	100	100	100	100

Source: VLSS 1992/93 and 1997/98; VHLSS 2002-2008.

In addition, more than 70 percent of the elderly do not receive either a contributory pension or any social allowances (Tables 5 and 6). The results also show that more vulnerable groups, such as ethnic-minority and rural elderly citizens, generally have lower access than do their counterparts, especially to the contributory pension. Recent studies (see, for example, Evans *et al.*, 2007; UNFPA, 2011) show that elderly households' income sources are mostly from agricultural production, but this is increasingly prone to natural disasters and climate change.

Table 5. Percentage of the Elderly Receiving Pensions and Social Allowances, 2008

	Contributory Pensions	Social Allowances (including cash transfers)
All old-age	*21.9*	*18.5*
Age group		
60-69	25.8	15.6
70-79	18.8	16.2
80+	17.7	30.6
Ethnicity		
Kinh	23.3	19.1
Ethnic minorities	8.0	12.6
Poverty		
Non-Poor	24.5	18.5
Poor	4.8	18.0
Residence		
Rural	16.0	20.1
Urban	37.5	14.2
Region		
Red River Delta	38.9	22.4
Northeast	30.3	13.3
Northwest	20.5	16.2
North Central Coast	28.8	26.5
South Central Coast	7.6	19.2
Central Highlands	10.9	6.1
Southeast	15.5	13.8
Mekong River Delta	4.3	15.5

Source: Giang (2010), estimates from VHLSS 2008.

Table 6. Average Annual Benefits of Contributory Pension and Social Allowances for an Elderly Household, 2008

	Pensions (VND 1,000)	Pensions as a % of household per capita expenditure	Social allowances, including cash transfers (VND 1,000)	Social allowances as a % of household per-capita expenditure
All elderly	4957.2	16.56	954.5	5.47
Age group				
60-69	6119.7	18.94	922.2	4.70
70-79	4106.8	14.02	887.6	5.48
80+	3533.2	15.24	1172.4	7.52
Ethnicity				
Kinh	5354.7	17.82	998.1	5.63
Ethnic minorities	1043.1	4.13	525.3	3.88
Poverty				
Non-Poor	5635.1	18.26	1004.5	5.19
Poor	535.4	5.51	628.7	7.33
Residence				
Urban	10890.2	26.38	744.3	2.71
Rural	2706.1	12.84	1034.3	6.52
Region				
Red River Delta	9167.1	27.66	1032.2	6.20
Northeast	5881.4	23.43	711.5	3.93
Northwest	3369.5	11.37	379.2	2.28
North Central Coast	5930.3	27.53	1437.5	8.98
South Central Coast	2082.0	5.85	1223.8	8.92
Central Highlands	2549.8	9.81	373.2	0.78
Southeast	3840.6	8.63	718.9	2.63
Mekong River Delta	1129.2	3.15	811.6	4.32

Source: Giang (2010), estimates from VHLSS 2008.

Poverty incidence and vulnerability of the elderly are critical for some groups. Table 7 shows the variation of the official poverty line, which is measured by real per capita expenditure:[3] 50 percent of the official poverty line shows extreme poverty, from which it is very difficult to escape; 125 percent of the official poverty line shows near-poor status, in which people are not poor, but vulnerable to poverty; and 200 percent of the official poverty line shows non-poor status, in which people may never fall into

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[3] In Vietnam, there are two poverty lines. The first line, namely 'food poverty line' defined by MoLISA, is measured by the annual amount of money required to purchase a 'typical' basket of food items which provides 2,100 calories. The second line, which is the 'official poverty line' defined by GSO, includes the purchase of the aforementioned basket of food items and the purchase of a 'minimal' amount of non-food items. In all social programs, the MoLISA poverty line is used. There are poverty lines for rural and urban areas: up to late 2009, VND 200,000 per capita income for rural and VND 260,000 per capita income for urban; in 2010 they were increased to VND 400,000 per capita income and VND 500,000 per capita income, respectively.

poverty. For any poverty line, the results generally show three critical trends: (i) the poverty rate increases as people get older; (ii) elderly females are always poorer than their male counterparts; and (iii) elderly people in rural areas and those from ethnic minorities are always poorer than their urban and Kinh (Vietnamese) counterparts.

In terms of age, the estimates show that, by all three poverty lines, the elderly at more advanced ages generally experienced higher poverty rates than did the younger elderly. Also, when the poverty line is changed, the elderly at more advanced ages would have larger changes in the poverty rate than would the younger elderly.

Table 7. Vulnerability to Poverty of the Vietnamese Elderly, 2008

Elderly Group	50% poverty line	Official (100%) poverty line	125% poverty line	200% poverty line
All elderly	*0.9*	*13.3*	*26.5*	*58.2*
By age				
60 – 69	0.6	10.2	22.8	54.9
70 – 79	1.1	16.3	29.3	60.5
80+	1.5	15.7	31.0	62.3
By gender				
Male	0.8	11.7	23.5	55.7
Female	1.0	14.4	28.7	59.9
Ethnicity				
Kinh (Vietnamese)	0.4	12.4	24.5	53.1
Ethnic minorities	6.9	43.2	63.8	78.7
Residential areas				
Rural	1.2	17.0	33.5	68.5
Urban	0.1	3.7	8.2	31.0
Living arrangements				
Alone	1.2	14.7	25.1	52.4
With children	0.9	14.4	26.0	57.8
Others	1.1	13.6	24.8	54.1

Source: Own estimates, using VHLSS 2008.

Regarding gender, elderly females had a higher poverty rate than did their male counterparts. Similarly, by all three poverty thresholds, elderly females would experience larger changes in poverty rates than would elderly males. In other words, elderly females were always more vulnerable to poverty than were their male counterparts.

The findings for Kinh and other ethnic minority elderly citizens show their substantial differences in poverty rates under four poverty lines. In general, ethnic

minority elderly people were much poorer and more vulnerable than Kinh elderly citizens. Similar results are found for the rural and urban elderly, in which the former had significantly higher poverty rates and were more vulnerable to poverty than the latter.

By living arrangements, the results show that, under the first two poverty lines, the elderly living alone had the highest poverty rates. However, under the other poverty lines, households where the elderly were living with children had the highest poverty rates, and this situation might be elucidated by the fact that larger households tend to have lower per-capita expenditure.

3.   Cash Transfers and Old-Age Poverty Reduction: An Overview

Recently, numerous studies have indicated that cash transfers are playing an important role in reducing poverty for both the elderly and their families, as well as extending coverage of the social protection systems (see, for instance, HAI, 2006). While such *ex-post* evaluations are obviously important for discussing the advantages and drawbacks of the existing cash transfer programs, *ex-ante* evaluations are also equally important to understand the potential impacts of proposed schemes since they may help policy makers decide on key design elements of a cash transfer program, such as the order of magnitude of the necessary transfers to achieve the desired impacts, and the targeted areas and elderly groups. This section provides a brief overview of some relevant studies with a focus on analytical frameworks and main findings.

In a study on Greece, Matsaganis *et al.,* (2000) discuss the desirability and feasibility of a minimum guaranteed income scheme to protect the poor. Using data from the European Community Household Panel (ECHP) in 1994, the study estimates how poverty rates and other income inequality indices would have been changed if a minimum guaranteed income scheme was introduced in 2000. Different scenarios are assumed for different targeting levels and possible leakage rates. The findings show that extreme poverty rates would be reduced significantly in all policy settings if such a scheme were introduced. However, the study also emphasizes that dealing with

budgetary and administrative constraints is extremely important for the design and implementation of such a scheme.

Assessing the impacts of a universal income grant scheme on poverty reduction in South Africa, Bhorat (2003) uses data from the Income and Expenditure Survey 1999, namely IES 1999, which are simulated updates from those of the IES 1995 with a number of assumptions. Poverty rates are measured by the Foster-Greer-Thorbecke (FGT) index, in which household consumption is re-scaled according to the household living arrangements. The study makes simulations for different types of households and recipients under various benefit levels. Moreover, the study also estimates the minimum financial requirements of the program to reach certain poverty-reduction levels. For instance, the government needs to spend about 8.3 percent of total national budget expenditure in order to close the poverty gap completely.

For 15 African countries, Kakwani and Subbarao (2005) use household data to measure changes in poverty rates and the poverty gap if a social pension through cash transfer had been introduced in these countries. To do this, they classify household arrangements by different types, and then consider different targeting options, including such policies as universal provision, targeting all elderly people, and targeting the elderly who live alone. The simulated results provide not only the expected reductions in poverty rates, but also the required financial capacity to achieve such options. The study then makes simulations on the impacts of the scheme under a fixed budget constraint and benefit level. It shows quite different results for these countries, as they have very different economic, social, and demographic characteristics.

Similarly, with a set of 18 countries in Latin America and their household data, Dethier *et al.,* (2010) examine the impact of universal minimum old-age pensions on old-age poverty and the fiscal costs. Poverty incidence is measured by the poverty rate. The simulation results show that a universal minimum pension would substantially reduce poverty among the elderly in the countries where social pensions are absent, while the impacts would be small in the countries where minimum pension systems already exist and poverty rates are low, such as Argentina, Brazil, Chile and Uruguay. In general, such schemes have much to be commended in terms of incentives, spillover effects and administrative simplicity, but have a high fiscal cost.

For Viet Nam, Weeks *et al.,* (2004) use data from the Vietnam Living Standard Survey (VLSS) in 1997/98 with the prices in 1993 to estimate the potential costs for implementing a universal cash transfer program to all elderly citizens aged 65. Not including administrative costs, the estimated budgetary cost would have been 2.2 percent of GDP in 1998, if the benefit was equal to the poverty line. This study, however, did not discuss how the scheme would help to reduce the poverty rate and poverty gap for the elderly in Vietnam.

Giang and Pfau (2009 a, b) using VHLSS 2004, estimate the impacts of various cash transfer programs on old-age poverty incidence in Viet Nam. They find that there will be a clear trade-off between total benefit costs and poverty reduction, and that a cash transfer program focusing on the rural elderly and targeting wider elderly groups will have the greatest potential to reduce old-age poverty.

This paper, with the most updated household survey data from 2008, aims to contribute another *ex-ante* evaluation of an expanded cash transfer program for the elderly by exploring different designs using age, benefits, budget scenarios, and targeting strategies.

4. Data and Methodology

4.1. Data

The main aims of this paper are to quantify the potential impacts on old-age poverty and the fiscal costs of expanding the cash transfer program to various groups of elderly Vietnamese. To pursue these research objectives, we will use the most recent Viet Nam Household Living Standard Survey from 2008 (namely, VHLSS 2008). This was one of the six household surveys in Viet Nam conducted by the General Statistics Office (GSO) since 1992 under the World Bank's Living Standard Measurement Surveys (LSMS).

The survey is conducted at household level, but includes a number of individual characteristics such as age, gender, relationship to the household head, marital status, work status, and educational attainment. Such data let us identify an elderly person (aged 60 and over) and an elderly household (which includes at least one elderly

person). The VHLSS 2008 surveyed 38,523 persons in 9,189 households. The number of elderly persons and households were 3,972 and 2,974, respectively. Of the elderly, by gender, 41.3 percent were males (1,641 persons) and 58.7 percent were females (2,331 persons); and by areas, 24.8 percent were living in urban areas (988 persons) and 75.2 percent were living in rural areas (2,984 persons).

At the household level, the survey provides information on the sources of income, household expenditure, and ownership of consumer durables, business and agricultural activities, poverty incidence, participation in poverty alleviation programs, social insurance, wealth, and housing conditions.

Nevertheless, the data have some critical limitations. Most of the income sources are only identified at the household level, so it is not clear which member is the source of household income. Similarly, expenditure is identified at household level and there are no equivalence scales for different household members, so we do not know who is spending, and can only identify expenditure per capita within the household. Wealth data are also available only at the household level, so it is difficult to analyze intra-household transfers.

4.2.   Methodology

In this paper, we will apply static micro-simulation techniques with the aforementioned data. There are three steps in our analysis.

First, we will set up a number of cash transfer programs using different age thresholds and specific characteristics of the elderly, and then estimate their potential impacts on elderly poverty reduction and respective fiscal costs.

Second, at a fixed budget level, we will simulate a number of alternatives to look for the most effective scheme in terms of poverty reduction. We will use different poverty indicators to evaluate reduction magnitude.

Lastly, we will estimate the long-term fiscal costs of universal cash transfer programs, in which only age thresholds are considered for different simulations.

4.2.1. *Poverty Measures*

In this paper, poverty incidence is measured by poverty rate and poverty gap. The poverty rate represents the percentage of the population whose expenditure is below the

official poverty line. In 2008, the official poverty line was measured by per capita expenditure per year and was VND 3,360 thousand (or VND 280,000 [~ $US 15] per month).

The poverty gap indicates how much money is needed to close the gap between per capita expenditure and the official poverty line for each member of the population (it is zero for the non-poor). We must be clear that we define this as an absolute measure of income, so that Viet Nam's poverty gap would be defined as the total amount of money required to bring the expenditure of all poor people up to the poverty line.

We will apply these measures for directly (eligible) elderly recipients, the overall elderly population, and the total population of all ages.

4.2.2. Targeting Groups

In this paper, we will consider three targeted groups, which are chosen based on regulations in the current cash transfer program in Viet Nam, as well as the situation of the most vulnerable elderly groups (for instance, see Evans *et al.,* 2007; Giang and Pfau, 2009c). These groups are not chosen by means-testing of income or wealth because the administrative burden of such choices in Viet Nam would be extremely high.

Three groups are as follows:
(1) All elderly people (namely, **ALL**). This is a universal scheme.
(2) Only the elderly living in areas classified as rural (namely, **RUR**);
(3) Only elderly females (namely, **FEM**);

4.2.3. Measurements of Potential Impacts

First, given conditions and targeting strategies as well as data structure of 2008, we will calculate how the poverty rate of the elderly would have been changed (in percentage terms) if different choices for the current cash transfer program had been implemented in Viet Nam. In general, the higher the percentage change, the more effective the scheme would be. The poverty reduction effects with the introduction of cash transfers (CT) are computed as follow:

Poverty rate (PR) reduction effect = [(pre-CT PR – post-CT PR)/pre-CT PR]*100 (%) ---- (1)
Poverty gap (PG) reduction effect = [(pre-CT PG – post-CT PG)/pre-CT PG]*100 (%) --- (2)

Second, we will also provide information on the distribution of the elderly population within different poverty ratios, which are measured by the ratios between their per capita expenditure and the poverty line. The results will show the percentage of the elderly who would move out of different poverty thresholds.

Lastly, we will calculate Gini coefficients, so as to see how the proposed cash transfer programs would help to reduce inequality in terms of per-capita expenditure.

4.2.4. Main Assumptions

We use the VHLSS 2008 data to simulate a counterfactual situation in which the current cash transfer program for the elderly in Viet Nam would be expanded to various elderly groups as indicated above. There are four main assumptions for such simulation exercises.

First, for the baseline case, we assume that the benefit level is equal to 50 percent of the official poverty line. This amount was equal to VND 1,680 thousand per year [or US$ 90 per year], equivalent to 9.3 percent of GDP per capita in 2008.

Second, we assume that the benefits will be added to their household's total expenditure, and then divided equally among each member of the elderly household. This is a necessary assumption, because we are unable to account for differentiated individual expenditure within the household due to data limitation as discussed above. Under this assumption, the simulated cash transfer programs would reduce poverty for various groups, including the elderly poor, the elderly non-poor, the non-elderly poor, and the non-poor non-elderly. In other words, the leakage rate would be expected to be high in some cases.

Third, we assume that only benefit levels and age thresholds would be changed to match given fiscal costs, while other factors will remain the same. For instance, provided with benefits, the elderly and their family members will not change behavior such as the supply of labor and consumption styles. Also, there will be no macroeconomic feedback due to the expansion of the cash transfer program, because the government needs to increase social expenditure for the program.

Obviously, these aforementioned assumptions are strong, and thus there would be potential biases in estimation. As such, policy implications need to be thoroughly considered.

4.2.5. Simulating Fiscal Costs of a Universal Cash Transfer Program for the Elderly

To estimate fiscal costs of a universal cash transfer program for the elderly in Viet Nam, we will use age as a key variable, meaning that we will set different minimum eligible ages for the cash transfer program regardless of the specific characteristics of elderly recipients. We will use the method discussed in Willmore (2007), which includes only costs for paying benefits, and excludes administrative costs. In detail, suppose that the number of eligible elderly people accounts for *e* percent of the total population, and the benefit provided to each person is equal to *b* percent of GDP per capita. The total fiscal costs excluding administrative costs will be *t* percent of GDP, in which *t=e*b*. This calculation implies that the benefit is not linked to the official poverty line, which grows with inflation rather than GDP. Also, an increased number of eligible elderly recipients or higher benefit levels means higher fiscal costs. We will use the population projections by GSO (2010b) for the estimated elderly population.

5. Simulation Results and Policy Discussion

5.1. Potential Impacts of the Expanded Cash Transfer Programs on Old-Age Poverty

We now consider the potential impacts and fiscal costs of different cash transfer programs on old-age poverty in Viet Nam, given two important baselines: (i) age will be considered at four thresholds, i.e. 60 and over (or all elderly persons); 65 and over; 70 and over; and 75 and over; and (ii) three categorical elderly groups, i.e., ALL, RUR, and FEM.

Table 8 presents our estimates. It is crucial to note that these estimates are not comparable because each program focuses on a specific elderly group at a certain age threshold.

Table 8. Impacts on the Recipients' Poverty Rate and Fiscal Costs

Age \ Category	ALL (All elderly)	RUR (Only rural elderly)	FEM (Only female elderly)
60 and over			
Benefit as % of GDP per capita	9.3	9.3	9.3
Beneficiaries as % of total population	10.38	7.80	6.09
Fiscal costs as % of GDP 2008	0.965	0.725	0.567
Fiscal costs (VND billion)	14,330	10,777	8,420
- Pre- (%)	13.28	16.43	13.88
- Post- (%)	6.19	7.96	7.26
- Change (%)	-53.4	-51.6	-47.7
65 and over			
Benefit as % of GDP per capita	9.3	9.3	9.3
Beneficiaries as % of total population	7.70	5.88	4.62
Fiscal costs as % of GDP 2008	0.680	0.547	0.430
Fiscal costs (VND billion)	10,098	8,121	6,389
- Pre- (%)	13.90	17.54	15.27
- Post- (%)	6.61	8.35	7.95
- Change (%)	-52.4	-52.4	-47.9
70 and over			
Benefit as % of GDP per capita	9.3	9.3	9.3
Beneficiaries as % of total population	5.03	3.82	3.07
Fiscal costs as % of GDP 2008	0.468	0.355	0.286
Fiscal costs (VND billion)	6,946	5,278	4,252
- Pre- (%)	15.65	19.76	16.82
- Post- (%)	7.49	9.40	8.60
- Change (%)	-52.1	-52.4	-48.9
75 and over			
Benefit as % of GDP per capita	9.3	9.3	9.3
Beneficiaries as % of total population	3.1	2.40	1.95
Fiscal costs as % of GDP 2008	0.288	0.223	0.181
Fiscal costs (VND billion)	4,277	3,315	2,690
- Pre- (%)	16.36	20.15	17.54
- Post- (%)	8.64	10.58	9.98
- Change (%)	-47.2	-47.5	-43.1

Note: GDP in 2008 was VND 1,485,038 billion.
Source: Own estimates, using VHLSS 2008.

In general, given the same benefit level provided to all specific groups of the elderly, the fiscal cost would be higher for the cash transfer program covering more of the elderly. In the same category, however, the results clearly show that higher fiscal costs would bring greater impacts on poverty reduction. For instance, the program covering all elderly people would cost 0.965 percent of GDP in 2008 and reduce the poverty rate from 13.28 percent to 6.19 percent (or a 53.4 percent reduction), but the program covering all elderly people aged 70 and over would cost 0.468 percent of GDP in 2008, but only reduce the poverty rate from 15.65 percent to 7.49 percent (or a 52.1 percent reduction).

To explore how the proposed cash transfer programs would impact the poverty incidence of other groups of people rather than only the elderly, Table 9 provides the simulation results for a universal program (providing benefits to the entire elderly population), in which impacts on poverty reduction are presented for the directly (eligible) elderly; the total elderly population; and the non-elderly population.

Table 9. Impacts on Poverty of Other Groups of People

Age \ Category	ALL (All elderly)	RUR (Only rural elderly)	FEM (Only female elderly)
Spending			
Fiscal costs (VND billion)	14,330	10,777	8,420
As % of GDP 2008	0.965	0.725	0.567
- % spent by direct recipients	49.33	52.27	34.88
- % spent by elderly	49.33	52.27	45.95
- % spent by non-elderly	50.67	47.73	54.05
Direct recipients			
- Pre- (%)	13.28	16.43	13.88
- Post- (%)	6.19	7.96	7.26
- Change (%)	-53.4	-51.6	-47.7
Elderly			
- Pre- (%)	13.28	13.28	13.28
- Post- (%)	6.19	7.34	8.55
- Change (%)	-53.4	-44.7	-35.61
Non-elderly			
- Pre- (%)	14.2	18.4	14.6
- Post- (%)	13.1	17.1	13.5
- Change (%)	-7.75	-7.07	-7.53

Source: Own estimates, using VHLSS 2008.

In terms of spending, the results in Table 9 show a high leakage rate of all proposed cash transfer programs. For instance, in the program for elderly females, only 34.88 percent of the total fiscal costs would be spent by female direct recipients, while 45.95 percent and 54.05 percent would be spent by the entire elderly population and non-elderly population, respectively. A part of these findings can be elucidated by our second assumption for simulation, i.e., benefits for an elderly recipient would be shared with his/ her household members.

Another interesting result is that the potential impacts on poverty reduction would be higher if the program had a higher coverage. For example, throughout the simulation results with different groups of people, ALL would always have the highest rate of poverty reduction, while FEM would have the lowest rate of poverty reduction. It

should be noted, however, that such poverty reduction would be a trade-off with higher fiscal costs.

Given limited government revenue, we now consider all possible alternatives to a cash transfer program for the elderly in Viet Nam. These alternatives would have the same fiscal cost, which is about 0.75 percent of 2008 GDP – a middle level of three micro-simulation cases. We will vary eligible ages (from 60 to 90 years old) and benefit levels (from 20 percent to 200 percent of the poverty line) to find these alternatives. The simulation results are presented in Table 10, but only the programs with the highest impacts on the reduction of the poverty rate are listed.

Table 10.   Optimal cash transfer programs with the same benefit costs of 0.75 percent of 2008 GDP

Cat.	Starting age	Beneficiaries as % of total population	Benefit level as % of poverty line	Benefit level as % of GDP per capita	% change in poverty gap for the elderly population
RUR	61	7.35	54.86	10.20	-58.29
RUR	64	6.22	64.78	12.05	-52.34
RUR	67	5.23	77.10	14.34	-46.38
RUR	71	3.82	105.53	19.63	-42.73
RUR	76	2.43	165.91	30.86	-35.53

Source: Own calculations, using VHLSS 2008.

With the same total fiscal costs, Table 10 provides two interesting findings and policy implications.

First, only programs for the rural elderly (RUR) would be selected from simulation processes with different age thresholds and benefit levels. For instance, at the same fiscal costs of 0.75 percent of GDP in 2008, we would be able to choose either a program providing a benefit equal to 54.86 percent of the official poverty line (or 10.20 percent of GDP per capita) to all elderly people aged 61 and over living in rural areas or a program also for the rural elderly providing a benefit equal to 77.10 percent of the official poverty line (or 14.34 percent of GDP per capita) to all elderly people aged 67 and over, and so on.

Second, in terms of reduction in the poverty rate for the entire elderly population, the results show that higher poverty reduction would occur in the program with lower starting eligible ages and lower benefit levels. For example, the poverty rate would be

reduced by 58.29 percent in the program providing a benefit equal to 54.86 percent of the official poverty line (or 10.20 percent of GDP per capita) to all rural elderly people aged 61 and over, while such a reduction would be only 35.53 percent in the program providing a very high benefit equal to 165.91 percent of the official poverty line (or 30.86 percent of GDP per capita) to all rural elderly people aged 76 and over. These findings recommend that, *given the same fiscal costs, programs with a lower age of eligibility and benefit levels would be more influential in poverty reduction than programs with a higher age of eligibility and benefit levels.*

Table 11 provides the simulation results for (i) Gini coefficients, which are measured by per capita expenditure, and (ii) poverty ratios, which are calculated according to the ratio between per capita expenditure and the official poverty line. In general, the results indicate that, though the impact magnitudes would be different, all proposed cash transfer programs would be able to reduce expenditure inequality for the elderly population in particular and the Vietnamese population in general. For instance, a universal program would reduce the Gini coefficient for elderly people from 0.359 to 0.330; and for the whole Vietnamese population from 0.352 to 0.345.

Notable findings on the poverty ratios for the elderly are also presented in Table 11. Though the potentials of the proposed cash transfer programs would obviously be different, the results show that all the programs in consideration would be able to lift a proportion of the elderly population out of poverty. For instance, about 10.9 percent of the elderly population were living in near-poor range (100% to 125% of the official poverty line), but this number would be reduced to 7.4 percent if a universal cash transfer program had been introduced in 2008. At the same time, the percentage of the elderly living under the official poverty line would have been reduced substantially from 12.1 percent to 6.1 percent; and the percentage of the elderly living above 200% of the official poverty line would have increased from 44.9 percent to 54.1 percent.

Table 11. Potential Impacts on Equality and Poverty Distribution

Indicators	Pre-program	Post-program			
		60+	65+	70+	75+
Group	*Gini coefficient*				
Total population	0.352	0.345	0.346	0.348	0.349
Elderly	0.359	0.330	0.331	0.341	0.347
Poverty ratios	*Percentage of the elderly population*				
0% - 50%	0.8	0.08	0.1	0.3	0.4
50% - 100%	12.5	6.1	6.6	7.9	9.6
100% - 125%	10.9	7.4	7.9	9.7	9.9
125% - 200%	31.3	32.3	32.5	32.8	33.1
> 200%	44.9	54.1	52.9	49.3	47.0

Source: Own calculations, using VHLSS 2008.

5.2. The Long-term Fiscal Costs of Universal Cash Transfer Programs

As indicated in a number of studies on cash transfer programs, such as UN-DESA (2007), the crucial issue for any developing country is whether the fiscal costs would be affordable. This question is important in the case of Viet Nam as well. To do this, given the aforementioned calculation method adopted from Willmore (2007), we will use the population projection results from GSO (2010b). The period for our fiscal cost simulation is 2009-2049. The elderly population is disaggregated into four 5-year age groups as presented in Table 2. Using these four age thresholds, the simulation results for four universal cash transfer programs are provided in Table 12.

Suppose that we will provide the same benefit as in 2008 (i.e., 50 percent of the official poverty line), which was about 9.3 percent of GDP per capita, to all elderly people in four cash transfer programs according to four age thresholds. As the Vietnamese population ages, more elderly people would be beneficiaries of the cash transfer program, and therefore the fiscal costs would be higher. Table 12 shows, however, that the highest fiscal costs for a universal cash transfer program covering all elderly people would be as high as 2.43 percent of GDP in 2049. Such a finding is in line with the simulation results for many other developing countries in UN-DESA (2007).

Table 12. Fiscal Costs for Universal Cash Transfer Programs, 2009-2049

Year	2009	2019	2029	2039	2049
Providing benefits to all elderly (aged 60 and over)					
Eligible Population (as % of total population)	8.68	11.37	16.66	21.37	26.10
Benefit (as % GDP per capita)	9.3	9.3	9.3	9.3	9.3
Fiscal Cost (as % of GDP)	0.81	1.06	1.55	1.99	2.43
Providing benefits to all elderly aged 65 and over					
Eligible Population (as % of total population)	6.42	7.08	11.38	15.56	19.06
Benefit (% GDP per capita)	9.3	9.3	9.3	9.3	9.3
Fiscal Cost (as % of GDP)	0.60	0.66	1.06	1.45	1.77
Providing benefits to all elderly aged 70 and over					
Eligible Population (as % of total population)	4.61	4.30	6.82	10.36	12.92
Benefit (% GDP per capita)	9.3	9.3	9.3	9.3	9.3
Fiscal Cost (as % of GDP)	0.43	0.40	0.63	0.96	1.20
Providing benefits to all elderly aged 75 and over					
Eligible Population (as % of total population)	2.97	2.63	3.46	6.06	8.03
Benefit (% GDP per capita)	9.3	9.3	9.3	9.3	9.3
Fiscal Cost (as % of GDP)	0.28	0.25	0.32	0.56	0.75

Source: Own calculations, using data from GSO (2010 b).

Notes: fiscal costs are for benefit payments only, and exclude administrative and other related costs.

6.   Concluding Remarks

Using VHLSS 2008 with micro-simulation techniques, this paper generally found that a cash transfer program would be able to significantly reduce old-age poverty in Viet Nam, both in terms of the poverty rate and the poverty gap. The simulation results indicate that a cash transfer being prioritized for the rural elderly would be the most effective in terms of poverty reduction, given the small fiscal costs. Moreover, programs providing lower benefits to a wider group of beneficiaries would be more effective in poverty reduction than programs providing higher benefits to a limited number of beneficiaries. Our simulation results also argued that it would be financially affordable for Vietnam to expand the current cash transfer program to wider groups of the elderly, which in turn would help to reduce poverty and vulnerability of the elderly.

From the experiences of Vietnam, there are some lessons for other developing Asian countries in considering social pensions for older people. First, a universal social pension can work in low-income countries. Given limited funding, targeting the most vulnerable groups, such as rural older people, would help reduce the incidence of

poverty among older people substantially. Such a scheme would also fill the gap to put in place a comprehensive social protection system aimed at protecting all citizens. Second, in countries where the incidence of poverty among older people is a significant issue, a universal social pension scheme providing low benefits to a large number of beneficiaries would be more beneficial in terms of poverty reduction than a universal social pension scheme providing high benefits to a small number of beneficiaries. Third, aging and older people should not be ignored in any development strategies. Cash transfers are not the sole solution for fighting poverty among older people, and should be considered merely as an instrument to help reduce poverty. It is necessary to prepare well for an aging population from now by promoting education and health for the youth, which in turn will guarantee older, healthier, and wealthier nations.

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