THE IMPACT OF CONTRIBUTORY PENSION ON ELDERLY WELFARE - EVIDENCE FROM VIETNAM

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Abstract

Although there is no doubt that social security in general and pension in particular can have positive effect on income and consumption of household as well as help to reduce the poverty incidence. With respect to potential effect of pension on elderly welfare, there have been limited empirical studies which focus on their work and healthcare. This article uses the panel data from the VHLSSs 2010 and 2012 with fixed effects model to estimate the effect of the receiving of pension on elderly welfare in Vietnam. It is found that pension received did not have statistically significant effects on work, wage earners and healthcare of older people, including people aged above 70.

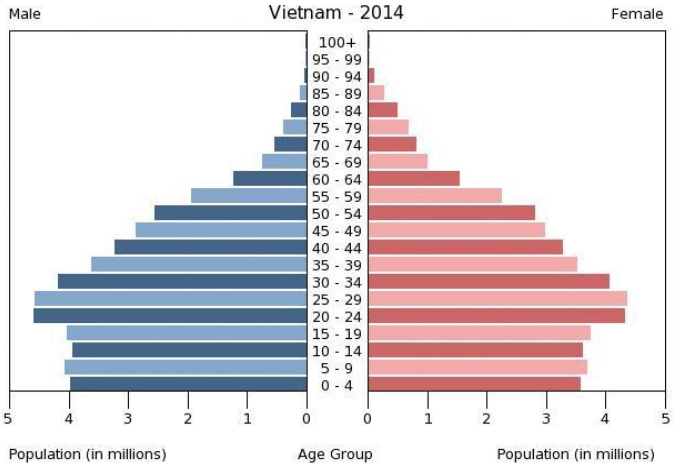
Key words: Contributory pension, the elderly, household welfare, healthcare, work, Vietnam.

1. Overview of the elderly and contributory pension in Vietnam

1.1. The elderly in Vietnam

Over the past three decades, the elderly population in Vietnam has increased significantly in terms of size and proportion due to three factors: decreases in fertility rates and mortality rates, and an increase in life expectancies. The shape of Vietnamese population pyramid in 2014 has marginally transformed to have narrower bottom and expand in the center and top (Figure 1). According to Vietnam's GSO, from 2009 to 2014, proportion of people 15- 64 years old and over-65 years old in Vietnam's total population has increased by 0.3 (69.1% to 69.4%) and 0.7 (6.4% to 7.1%), respectively for 6 years (Table 1).

Figure 1: Vietnamese population pyramid in 2014



Source: CIA World Factbook, 2014.

Table 1: Proportion of population groups and aging index from 2009 to 2014 in Vietnam

Year	2009	2010	2011	2012	2013	2014
Proportion of people under 15 years old	24.5	24.7	24	23.9	24.2	23.5
Proportion of people 15-65 years old	69.1	68.5	69	69	68.6	69.4
Proportion of people over 65 years old	6.4	6.8	7	7.1	7.2	7.1
Aging Index	35.5	37.9	41.1	42.7	43.5	43.3

Source: GSO of Vietnam (2013,2014).

With respect to aging index, from 2009 to 2014, aging index in Vietnamese population has risen quickly from 35.5% to 43.3%. This illustrates that Vietnamese population is getting older and older in a speedy acceleration.

According to the 2009 Vietnam Population and Housing Census, the regions having a low proportion of the elderly are Northern Mountain, Central Highland and Mekong River Delta, while the Red River Delta and Central Coast are likely to have a higher proportion of the older people. The share of the elderly population at the middle level is at South East, which is a richest region. In Vietnam, almost older persons live in rural area, they are farmers and disposing unequally between areas. Also, according to the 2009 Vietnam Population and Housing Census, 72.5% older person lives in rural areas, by 2.6 times compared to those lives in urban areas.

1.2. Current contributory pension in Vietnam

Since the 1960's, the government of Viet Nam has been implementing a social insurance system, in particular a pension scheme, to protect workers when they get older and retire. During more than 40 years of its operation, the pension scheme has been amended a number of times to adapt to recurrent socioeconomic changes, the milestone of which was moving from a subsidized scheme to a contributory scheme (UNFPA Vietnam, 2011). Before 1995, the pension scheme was defined-benefit, which covered only the public sector, however, since 1995, pensions have been expanded to cover employees of the state sector and private enterprises. The current contributory pension scheme in Viet Nam is a Pay-As-You-Go Defined-Benefit (PAYG DB), and as such it is not financially balanced and causes generational inequity under the aging population (UNFPA Vietnam, 2011). Pensions include several types of benefits, such as maternity benefits, sickness benefits, benefits for industrial injury and occupation diseases, payment for job loss and redundancy, monthly pensions, and death benefits. Most of the pension benefits are paid in cash (Nguyen, 2013).

Tables 2 shows pension received by households that estimated from the VHLSSs 2010 and 2012. There were around 9.5 per cent of households receiving contributory pension in 2010 and this proportion of pension decreased slightly to 7.7 per cent in 2012. The share of contributory pension in total households' income was around 48.9 and 45 per cent in 2010 and 2012, respectively. Hanoi and HCM city accounted for a very large proportion of the pension-receiving households. Red River Delta and Northern Mountains regions had a higher proportion of pension than southern regions such as South East and Mekong River Delta. In addition, the percentage of pension over households income in urban was considerably higher than those in rural. Also, the proportion of pension received by richest households was higher than that by poorest households. Similarly, the non-poor households received larger pension than poor households.

Table 2: Pensions in VHLSSs 2010 and 2012

	VHLSS 2010			VHLSS 2012		
	% hh. receiving pension	Pension amount per receiving hh. (000 VND/ year)	% pension in total income for receiving hh.	% hh. receiving pension	Pension amount per receiving hh. (000 VND/ year)	% pension in total income for receiving hh.
Total	9.5	30167	48.9	7.7	32424	45.0
Urbanity						
Hanoi, HCM	17.4	36369	35.9	13.7	35980	37.9
Urban	16.3	30276	49.6	12.5	33445	45.5
Rural	5.3	24831	59.1	4.7	29019	49.5
Region						
Red River Delta	18.6	31971	43.7	15.2	33157	43.1
Northern Mountains	10.6	27275	56.3	8.9	31674	53.0
Coastal Central	8.6	28188	61.8	7.5	31736	49.0
Central Highlands	5.6	26417	53.9	2.6	25417	38.9
Southeast	6.0	31142	41.5	4.8	31782	34.0
Mekong Delta	2.0	28478	38.0	1.6	35245	47.8
Expenditure quintile						
Poorest	2.8	21328	81.2	1.3	25025	54.6
Near poorest	5.5	24502	69.9	3.9	23232	49.5
Middle	7.5	28527	63.2	7.1	29484	47.1
Near richest	11.2	27870	43.2	11.1	33061	45.4
Richest	20.5	34764	36.6	15.0	36381	41.5
Poverty						
Non-Poor	11.0	30619	47.0	8.9	32590	44.8
Poor	2.5	21058	86.6	1.0	23626	51.9

Note: The pensions in 2012 are measured at the price of 2010.

Source: author's estimation from the VHLSSs 2010 and 2012.

According to table 3, the households having two members had the highest proportion of pension. High education households and Kinh households tended to receive more contributory pension than low education and ethnic minority households. In

addition, contributory pension received by the male householders was higher than that of female counterparts. Household head with the age under 50 received less pension than those with age over 50.

Table 3: Pensions by household head characteristics in VHLSSs 2010 and 2012

	VHLSS 2010			VHLSS 2012		
	% hh. receiving pension	Pension amount per receiving hh. (000 VND/ year)	% pension in total income for receiving hh.	% hh. receiving pension	Pension amount per receiving hh. (000 VND/ year)	% pension in total income for receiving hh.
Household size						
1	7.4	20582	76.8	6.2	21886	74.8
2	15.3	30656	65.6	16.1	32544	63.6
3	9.7	29662	47.3	6.5	35258	47.0
4	8.4	29857	42.2	4.2	30730	32.9
5	9.0	32471	36.4	7.7	33819	28.6
6	9.1	33887	29.3	10.7	31664	27.6
7	5.5	25564	34.4	6.6	35216	28.6
Ethnicity of household head						
Ethnic minorities	3.9	24751	61.6	2.3	26951	43.4
Kinh	10.3	30469	48.2	8.5	32643	45.0
Gender of household head						
Male	8.6	30420	48.3	6.8	34082	45.4
Female	11.9	29648	50.1	10.2	29313	44.1
Age of household head						
Less than 50	6.0	28866	45.4	1.1	28570	32.6
50-59	12.6	31134	49.9	8.5	30592	36.5
60-79	15.6	32198	49.7	22.3	33831	49.5
80+	14.5	20322	64.2	16.8	31672	50.7
Education of hh. head						
< Primary	2.6	21829	62.2	2.1	22748	44.8
Primary	4.9	25144	67.0	3.8	26403	44.6
Lower-secondary	9.2	26808	53.9	6.2	27299	43.2
Upper-secondary	12.5	28273	47.0	9.6	28573	40.3
Post-secondary	23.3	34836	40.0	21.6	38171	46.9

Note: The pensions in 2012 are measured at the price of 2010.

Source: author's estimation from the VHLSSs 2010 and 2012.

2. The dataset and methodology

2.1. The dataset

In this study, the author relies on two data sets collected from Vietnam Household Living Standard Surveys (VHLSS) of 2010 and 2012 survey. Each small sample VHLSS covered 9,399 households with 37,000 individuals.

The dataset set up a panel of 8,314 households, which were randomly selected that represent for households in the whole country. The number of individuals in the sample was 30,022, in which, there were 3,784 individuals being retirement age (60 for male and 55 for female), 3,286 individuals aged above 60 and 1,508 individuals aged above 70.

Contributory pension according to the dataset is mostly paid by cash. With regard to welfare of the elderly, this thesis uses the data on the number of times using outpatient and inpatient services during 52 weeks as well as fee of the healthcare services.

2.2. Methodology

Since contributory pension is not random as well as pension-receiving households and non-receiving households can be different in unobserved variables that affect both the pension and household and individual outcomes, the thesis uses the panel data from the VHLSSs 2010 and 2012 with fixed effects model to estimate the effect of the receiving of pension as follows:

$$Y_{it} = \beta_0 + X_{it}\beta_1 + D_{it}\beta_2 + T_t\beta_3 + v_i + u_{it}$$

where *Yit* is outcome of household or individual i at time t.

X is a vector of other control variables. The control variables include household and individual level characteristics (household size; the proportion of children and the elderly in households; the age, gender and education level of the household head; urban/rural and annual crop land/perennial crop land).

D is a vector of two dummy variables indicating whether a household or individual receives pensions. D equals 1 if Yit >0 and 0 if Yit = 0.

Tt is the time dummy, which equals 1 for the 2012 year and 0 for the 2010 year. This dummy variable controls for common macroeconomic changes between the two years.

vi and *uit* denote time-invariant and time-variant unobserved variables, respectively. vi is allowed to be correlated with the pension and other explanatory variables. uit is assumed to be uncorrelated with the pension.

3. The impact of contributory pension on elderly welfare in Vietnam: Findings and analysis

As mentioned above, in order to find out the impact of contributory pension on elderly welfare, a fixed effects model is carried out to what extent does pension affect the healthcare, working, income and expenditure of older people in Vietnam?. Time-invariant variables are removed by fixed effects regression. The thesis will also consider coefficients at 10 percent, 5 percent, and 1 percent statistical significance levels.

Table 4 and 5 below present the regressions of logarithm of income and expenditure per capita as well as poverty on receipt of contributory pension and other control

explanatory variables. In this thesis, a household is classified as poor if its expenditure per capita is below the poverty line set up by WB and GSO. The poverty line is equivalent to the expenditure level that allows for basic nutritional needs and essential nonfood consumption (Nguyen, 2013). According to WB (2012), the poverty line applied from 2010 as proposed by the GSO-WB is 653,000 VND per person per month.

Table 4: Regression of household welfare on pension

VARIABLES	Log of per capita income	Log of per capita expenditure	Poor
Receipt of contributory pension	0.1216***	0.0959***	-0.0343*
	(0.0386)	(0.0351)	(0.0184)
Log of annual crop land (1000m2)	0.0192***	0.0069**	-0.0051
	(0.0053)	(0.0034)	(0.0032)
Log of perennial crop land (1000m2)	0.0141***	0.0129***	-0.0054
	(0.0051)	(0.0039)	(0.0033)
Household size	-0.0777***	-0.1087***	0.0351***
	(0.0098)	(0.0081)	(0.0069)
Proportion of children below 15	-0.2669***	-0.2968***	0.0743
	(0.0808)	(0.0661)	(0.0585)
Proportion of people aged above 60	-0.1770**	-0.0971	0.0554
	(0.0735)	(0.0739)	(0.0461)
Age of household head	0.0243*	0.0129	-0.0217***
	(0.0144)	(0.0103)	(0.0075)
Square of age of household head	-0.0002*	-0.0001	0.0002***
	(0.0001)	(0.0001)	(0.0001)
Sex of household head (Male = 1)	-0.0500	-0.1093*	0.0247
	(0.0701)	(0.0602)	(0.0401)
Grade of household head	-0.0020	0.0063	-0.0041
	(0.0060)	(0.0047)	(0.0037)
Dummy year 2012	0.1373***	0.0916***	-0.0434***
	(0.0101)	(0.0080)	(0.0061)
Constant	9.2616***	9.7090***	0.5924***
	(0.4090)	(0.2687)	(0.2037)
Observations	8,314	8,314	8,314
R-squared	0.109	0.153	0.035
Number of i	4,157	4,157	4,157

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Source: author's estimation from the VHLSSs 2010 and 2012.

Table 4 shows that pension received increased per capita income and expenditure by around 12.2 per cent and 9.6 per cent at statistical significance of 1% level, respectively. As expected, the effect of pension on per capita expenditure was lower than the effect on per capita income. This suggests that households use contributory pension for not only consumption but also for savings and investment (Van den Berg and Nguyen, 2010).

The result also shows that pension received decreased poverty by approximately 3.4

per cent at 10% level statistical significance. The effect of pension on the poverty is relatively small, this is because pension covered only around 2.5 per cent and 1 per cent of the poor households in 2010 and 2012, respectively (see table 2). Compared to 2010, poverty of households in Vietnam in 2012 decreased by approximately 4.3 per cent.

Table 5: Regression of household welfare on pensions with interactions between pension and urban/rural, ethnicity and education level of household head

VARIABLES	Log of per capita expenditure	Log of per capita expenditure	Log of per capita expenditure	Log of per capita income	Log of per capita income	Log of per capita income
Receipt of contributory pension	0.1050**	0.1038***	0.1697**	0.1663***	0.1183***	0.3152***
	(0.0452)	(0.0364)	(0.0821)	(0.0510)	(0.0402)	(0.1065)
Urban × Pension receipt	-0.0176			-0.0862		
	(0.0699)			(0.0761)		
Ethnic minorities × Pension receipt		-0.1144			0.0484	
		(0.1194)			(0.1142)	
Number of grades of hh. Head × Pension receipt			-0.0080			-0.0209**
			(0.0086)			(0.0105)
Log of annual crop lands (1000m2)	0.0069**	0.0069**	0.0068**	0.0191***	0.0192***	0.0189***
	(0.0034)	(0.0034)	(0.0034)	(0.0053)	(0.0053)	(0.0053)
Log of perennial crop lands (1000m2)	0.0129***	0.0129***	0.0130***	0.0140***	0.0141***	0.0141***
	(0.0039)	(0.0039)	(0.0039)	(0.0051)	(0.0051)	(0.0051)
Household size	-0.1087***	-0.1087***	-0.1088***	-0.0778***	-0.0777***	-0.0779***
	(0.0081)	(0.0081)	(0.0081)	(0.0098)	(0.0098)	(0.0098)
Proportion of children below 15	-0.2970***	-0.2983***	-0.2969***	-0.2679***	-0.2663***	-0.2670***
	(0.0661)	(0.0662)	(0.0661)	(0.0807)	(0.0808)	(0.0807)
Proportion of people aged above 60	-0.0974	-0.0968	-0.0960	-0.1784**	-0.1771**	-0.1739**
	(0.0739)	(0.0740)	(0.0740)	(0.0736)	(0.0735)	(0.0734)
Age of household head	0.0130	0.0129	0.0130	0.0245*	0.0244*	0.0245*
	(0.0103)	(0.0103)	(0.0103)	(0.0145)	(0.0144)	(0.0144)
Square of age of household head	-0.0001	-0.0001	-0.0001	-0.0002*	-0.0002*	-0.0002**
	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.0001)
Sex of household head (Male = 1)	-0.1097*	-0.1096*	-0.1096*	-0.0518	-0.0498	-0.0507
	(0.0603)	(0.0602)	(0.0602)	(0.0702)	(0.0701)	(0.0701)
Grade of household head	0.0063	0.0063	0.0072	-0.0020	-0.0021	0.0005
	(0.0047)	(0.0047)	(0.0049)	(0.0060)	(0.0060)	(0.0062)
Dummy year 2012	0.0915***	0.0915***	0.0914***	0.1371***	0.1374***	0.1370***
	(0.0080)	(0.0080)	(0.0080)	(0.0101)	(0.0101)	(0.0101)
Constant	9.7084***	9.7109***	9.7006***	9.2588***	9.2608***	9.2395***
	(0.2687)	(0.2686)	(0.2698)	(0.4094)	(0.4091)	(0.4076)
Observations	8,314	8,314	8,314	8,314	8,314	8,314
R-squared	0.153	0.154	0.154	0.109	0.109	0.110
Number of i	4,157	4,157	4,157	4,157	4,157	4,157

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Source: author's estimation from the VHLSSs 2010 and 2012.

Table 5 also presents the effect of pension on household income and expenditure with regard to categorical targeting groups such as geography, ethnicity and education

level of household head. Pension received by urban households led to reduce per capita income and expenditure compared to rural households receiving pension, by around 8.6 per cent and 1.8 per cent, respectively. However, these effects were not statistically significant. This meant that the effects of pension on household income and expenditure were no differences between urban and rural areas. Same as above, the impact of pension on household welfare was no difference between ethnic and Kinh households.

Compared to low education households receiving pension, high education households receiving pension tended to reduce by about 2.1 per cent in per capita income at 5% level statistical significance. This can be interpreted as people with higher education level usually do in the formal sector and most of them have contributory pension. Upon retirement, the pension has received only about 75% of basic salary, therefore income will decrease. Nevertheless, there was no statistical significances in the effect of pension received by high education households on expenditure per capita.

Table 6: Regression of employment and health of the elderly on pension (male>=60, female>=55)

VARIABLES	Currently work (yes=1)	Wage earners (yes=1)	Outpatient healthcare visits	Inpatient healthcare visits	Log of out-of-pocket outpatient healthcare expense	Log of out-of-pocket inpatient healthcare expense
Receipt of contributory pension	-0.0171	0.0148	0.0257	-0.0919	0.2271	-0.3548
	(0.0486)	(0.0164)	(0.3909)	(0.1055)	(0.5225)	(0.4483)
Household size	-0.0209	0.0131	-0.3056*	0.0312	-0.1578	0.2477***
	(0.0148)	(0.0096)	(0.1735)	(0.0203)	(0.0962)	(0.0708)
Proportion of children below 15	0.2447*	-0.0718	2.8909*	-0.4982*	0.1673	-1.8575**
	(0.1287)	(0.0674)	(1.7437)	(0.2755)	(1.0002)	(0.9097)
Proportion of people aged 60-79	0.1245*	0.0557	1.1195	0.0063	-0.0081	0.7877
	(0.0699)	(0.0427)	(1.0530)	(0.1448)	(0.5761)	(0.4884)
Proportion of people above 79	0.1238	0.0787	1.2113	0.1316	-1.1180	1.0462
	(0.1054)	(0.0517)	(2.0088)	(0.2617)	(1.1119)	(0.9372)
Annual crop land (1000m2)	0.0080	-0.0037	0.0181	-0.0061	-0.2386	-0.0058
	(0.0161)	(0.0045)	(0.3013)	(0.0253)	(0.1725)	(0.1029)
Perennial crop land (1000m2)	-0.0030	-0.0049	0.4474	0.1133	-0.5016	0.4138
	(0.0472)	(0.0134)	(0.8664)	(0.1043)	(0.6058)	(0.4523)
Dummy year 2012	-0.0618***	-0.0149***	-0.5461**	-0.0007	0.0168	0.0769
	(0.0129)	(0.0057)	(0.2116)	(0.0240)	(0.1027)	(0.0899)
Constant	0.5363***	-0.0149	3.3059***	0.1919	3.7449***	-0.0289
	(0.0730)	(0.0489)	(0.7362)	(0.1199)	(0.5931)	(0.4198)
Observations	3,784	3,784	3,784	3,784	3,784	3,784
R-squared	0.024	0.007	0.011	0.004	0.005	0.008
Number of i	1,892	1,892	1,892	1,892	1,892	1,892

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Source: author's estimation from the VHLSSs 2010 and 2012.

Table 7: Regression of employment and health of the elderly on pension (aged above 70)

VARIABLES	Currently work (yes=1)	Wage earners (yes=1)	Outpatient healthcare visits	Inpatient healthcare visits	Log of out-of-pocket outpatient healthcare expense	Log of out-of-pocket inpatient healthcare expense
Receipt of contributory pension	-0.0075	-0.0016	0.3554	-0.0188	0.0955	-0.4696
	(0.0544)	(0.0037)	(0.6489)	(0.1529)	(0.8144)	(0.7091)
Household size	-0.0086	-0.0056	-0.5261	0.0015	-0.0535	0.0695
	(0.0206)	(0.0068)	(0.3774)	(0.0395)	(0.1842)	(0.1529)
Proportion of children below 15	0.5178***	0.0815	5.9206	-0.2092	0.4809	-1.6375
	(0.1898)	(0.0926)	(4.0310)	(0.3495)	(1.3802)	(1.6368)
Proportion of people aged 60-79	0.4113**	-0.0112	3.0521	-0.3522	1.6500	-0.6676
	(0.1611)	(0.0433)	(3.5402)	(0.3391)	(1.2763)	(1.0884)
Proportion of people above 79	0.4288***	0.0069	2.6538	-0.1821	0.4596	-0.5947
	(0.1639)	(0.0409)	(4.0807)	(0.4172)	(1.7319)	(1.5062)
Annual crop land (1000m2)	0.0106	-0.0009	-0.2431	-0.0229	-0.3056**	-0.1050
	(0.0154)	(0.0017)	(0.2109)	(0.0320)	(0.1410)	(0.1402)
Perennial crop land (1000m2)	-0.1456	0.0426	0.7662	0.1123	-0.2539	0.1157
	(0.0903)	(0.0428)	(1.5529)	(0.2436)	(1.0373)	(0.8022)
Dummy year 2012	-0.0727***	-0.0087*	-0.5730*	0.0095	0.0660	0.0857
	(0.0184)	(0.0045)	(0.2938)	(0.0406)	(0.1480)	(0.1537)
Constant	0.0749	0.0244	3.3274	0.4531	2.6522*	1.5397
	(0.1421)	(0.0368)	(2.5990)	(0.3097)	(1.3549)	(1.0907)
Observations	1,508	1,508	1,508	1,508	1,508	1,508
R-squared	0.063	0.020	0.025	0.005	0.012	0.004
Number of i	754	754	754	754	754	754

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Source: author's estimation from the VHLSSs 2010 and 2012.

Estimations of fixed effect regressions in table 6 and 7 indicated that pension received decreased the labor force participation of the older people (including people aged above 70) but the effect was very small and not significant at standard level. With regard to wage, all effects of pension received on wage earners of older people were so small and no statistical significances. It meant that contributory pension was likely not make the elderly reduce to work. In Vietnam, the number of employees participating in the system of social insurance accounts for 10%-20% of the total workforce and mainly in urban areas. Thus, the majority of rural workers to become elderly will not be entitled to pension from the social insurance system. To continue living, the elderly forced to work for a living or have the support of the children, or live with the help of the community. In addition, pension is considered as permanent income sources for the household of elderly and it contributes in total household expenditure, then the benefits from the contributory pension for the older person are small.

Contributory pension had non-significant impact on both number of times that the elderly using healthcare services and the fee of healthcare during 52 weeks. An critical cause for this situation is that healthcare service is essential goods, its demand is inelastic by income. Meanwhile, the health status of the elderly to a large extent depends on the advancement of their ages, so with or without contributory pension, the elderly still must take care their health. Moreover, lack of medical and facility sources for elderly care and the weakness of the healthcare system are also other causes that the impact of pension on the treatment of the elderly is inconsiderable.

4. Conclusions and recommendations

4.1. Conclusions

Using the data from household surveys of Vietnam in 2010 and 2012, our overall goal was to understand how well contributory pension affects household income, expenditure and poverty and to what extent this transfer impact the elderly' work, earnings and healthcare.

According to the data from household surveys of Vietnam in 2010 and 2012, we find that the non-poor households received larger pension than poor households. In addition, the percentage of pension over households income in urban was considerably higher than those in rural. High education households and Kinh households tended to receive more contributory pension than low-education and ethnic minority households.

Our results confirm the receipt of contributory pension increased per capita income and expenditure of household by around 12.2 per cent and 9.6 per cent, respectively. The effect of pension on per capita income was larger than that on per capita expenditure.

The estimated effect of contributory pension on incidence of poverty was negative and statistically significant. Pension received decreased poverty by approximately 3.4 per cent.

The effects of contributory pension on household income and expenditure were no differences between urban and rural household, ethnic minority and Kinh household. Education level of household head who received pension had non-significant impact on per capita expenditure. However, high education households receiving pension were likely to decrease by about 2.1 per cent in income per capita compared to low education households receiving pension.

With regard to the elderly welfare, we have found that pension received did not have statistically significant effects on work, wage earners and healthcare of older people, including people aged above 70.

4.2. Policy recommendations

Taking care of the elderly is an important policy component for the government of

Viet Nam, by understanding these effects above of contributory pension on the elderly welfare, we would like to propose some recommendations as follows:

Firstly, contributory pension increases household's income and expenditure as well as reduces poverty, however these effects are not high. In general, pension received has positive impact in reducing the intergenerational poverty. Therefore, it is necessary for the Government to ensure pension received flexibly and focus on the elderly working in informal sector and rural areas which have the majority of the labor force and largely labor with no pension.

Secondly, from the estimated results in section 3 that contributory pension does not reduce the work of older people, interestingly, the increase of the presence of people aged 60-79 is likely to increase elderly' work. Also in fact, elderly has continuously made an economic contribution to family both in their working ages and after the retirement ages. According to GSO, Population and Housing Census (2009), most elderly are still working actively at the age of 60-69 (61.9 per cent), at the age of 70-79 (34.5 per cent), and at 80 and over (7.8 per cent). Hence, it is truly necessary to create favorable conditions for the elderly, especially for those who have specialized skills to contribute their capacity and experience in jobs consistent with their ability, encourage them to continue participating in the labor force. The Government and policy makers should seriously consider employment opportunities for older persons as a mean to ensure income and benefits for old age.

Thirdly, as mentioned above, the effect of pension on healthcare of the elderly is insignificant, it is partly due to the lack of healthcare system for the elderly as well as the present system does not encourage the elderly participating. So as to improve national capacity in elderly care, elderly care services need to be strengthened and expanded with active participation for all groups, especially for the most vulnerable elderly groups, such as those living in rural areas, elderly females or ethnic minority elderly.

Last but not least, the Government should consider to establish a medium term comprehensive strategy, including both contributory pension and social pension, in order to provide a Social Protection Floor for older persons. The pension system needs to be reformed in the direction of comprehensive multilayer to ensure income security in old age.

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