

# How Progressive is Social Security in Viet Nam?

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## Foreword

The Government of Viet Nam is currently redesigning social security programmes to make them more consistent with the country's international economic integration and rapid rise to middle income country status. UNDP is pleased to support the Government in its efforts to develop social policies to promote growth, poverty reduction and income security for all Vietnamese people.

The design of social security programmes is complicated by the fact that we would ideally like these programmes to achieve several goals. First, they should protect people from risks to their living standards associated with old age, illness, raising children, unemployment and other life events. Second, they should help reduce poverty and economic inequality. Third, they should promote economic growth and facilitate the process of transition from a close to an open economy.

This UNDP Policy Dialogue Paper examines existing social security policies and analyzes the relationship between social security, consumption and income. The paper finds that when social policy is considered as a whole-including user fees as well as transfers-current policies do not contribute to the important goals of reducing poverty and inequality. Although poor households do receive transfers, they pay out equal or greater amounts in user fees to receive basic services like health and education.

UNDP Policy Dialogue Papers contribute to key policy debates in Viet Nam through an impartial consideration of the country's development situation and potential implications for the future. Our aim is to encourage informed discussion and debate through the presentation of information and evidence collected and presented in a clear and objective manner.

We are grateful to the University of Bath research team for their careful and perceptive analysis of Viet Nam's existing social security provision. The material presented in this Policy Dialogue Paper was first discussed in November 2006 at an international workshop in Ha Noi co-organized by the Viet Nam Academy of Social Sciences, the Ministry of Labour, Invalids and Social Affairs, and UNDP.

While the views expressed in the paper do not necessarily reflect the official view of UNDP, we hope that the paper's publication will stimulate further research and analysis on these important issues.



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# 1. Introduction

This report for the United Nations Development Programme (UNDP) in Viet Nam follows up on their Policy Dialogue Paper entitled 'Beyond HEPR: A Framework for an Integrated National System of Social Security in Viet Nam' published last year, which put forward general principles for comprehensive social security programmes in Viet Nam. This report is more empirical and uses recent household survey data from the Viet Nam Household Living Standards Survey (VHLSS) to examine who currently benefits from social security programmes and their overall impact on incomes and poverty. This report is the first of two complimentary reports, and looks at the whole population and the entire social security system. Its sister report, 'The Relationship Between the Old Age and Poverty in Viet Nam', looks more specifically at the elderly population.

Viet Nam is experiencing rapid economic growth with GDP increasing from 4.8 percent in 1999 to 7.7 percent in 2004<sup>1</sup>. Accompanying this growth have been large and impressive reductions in poverty rates: from 59 percent in 1993, to 29 percent 2002<sup>2</sup>, and to around 20 percent in 2004.

This introductory chapter looks at the current system of "social security" in Viet Nam and focuses on provisions that were in place in 2004, the year of the VHLSS survey data that is later described in Chapter 1 and used for analysis throughout later chapters. Chapter 2 then assesses two fundamental questions: First, "How important is social security for household welfare across regions, quintiles, and the urban-rural continuum?", and second, "What are the redistributive consequences of social security?" Chapter 3 then examines social security in relation to poverty and examines whether and to what extent Viet Nam's social security programmes contribute to poverty reduction across regions, quintiles, and the urban-rural continuum. Chapter 4 moves away from descriptive profiling of social security and makes some preliminary and tentative analytical examinations of the behavioural consequences of social security. Last, Chapter 5 draws together the findings of our research into a summary and conclusions.

## 1.1 Social Security & Social Protection in Viet Nam

The term "social security" can have various meanings and it is worth clarification, to both match provision in Viet Nam and to give a robust analytical definition that can give reliable measures of outcomes for the population. In Viet Nam, the formal term largely corresponds with the system of social insurance overseen by Viet Nam Social Insurance (VSI) - the arm of the Government of Viet Nam that collects voluntary and mandatory contributions for income transfers and health insurance and awards a range of contributory benefits and health insurance. The income transfers from VSI are mostly retirement pensions, and short-term benefits for maternity, sickness and job-loss. If we adopt this strict "institutional definition" we miss significant programmes of cash transfers and benefits in kind that are made to private households. These include a categorical programme for the war disabled and survivors and other programmes that are specifically directed at the poor - targeted transfers and benefits in kind that are allocated to poor households or poor populations or geographical areas.

The other characteristic of VSI social insurance is that transfers result from a contributory record. This means that cross-sectional surveys of the population will identify both recipients and contributors but that for the main benefit, retirement pensions, which are funded on a "Pay and You Go" (PAYG) principle, current working contributors are paying for (in part or in full) the current pensions of the retired. Profiles of progressivity will thus be between individuals rather than over the individuals' lifetime of contributing and receipt. This contrasts with a longitudinal profile of progressivity, which would show how much individuals pay into the social insurance funds and how much they receive as a consequence, and which, when grossed-up over the whole society can show very different profiles than cross-sectional ones (Falkingham and Hills 1995). Our analysis is purely cross-sectional and thus one of the main drivers of progressivity will be the relationship between who currently pays contributions and who receive cash transfers.

The Terms of Reference for this research, and the preceding work of UNDP on the development of strategic and universal approaches to social security and its role in tackling structural concerns such as poverty and

<sup>1</sup> Viet Nam Development Report 2005, Business, Joint Donor Report to the Viet Nam Consultative Group Meeting, Ha Noi, December 2005

<sup>2</sup> Based on international poverty line. Viet Nam Development Report 2004, Poverty, Joint Donor Report to the Viet Nam Consultative Group Meeting, Ha Noi, December 2003

inequality, mean that it is necessary to adopt an analytical approach to social security that takes on board both of these lessons. Put simply, we look at a wider range of transfers and associated programmes rather than just VSI social security and we adopt an approach that attempts to consistently look at both inputs (contributions and taxes) as well as outputs (transfers and benefits in kind) and their combined impact on household incomes, welfare and poverty.

### 1.1.1 Social & Health Insurance

Originally implemented in Viet Nam in 1947 and then expanded in 1993 to extend coverage from solely the public sector to include private enterprises and joint venture companies, contributory social insurance includes retirement pensions, disability benefit, maternity benefit, and unemployment benefit, added in 2002. Contribution rates are 15 percent for employers and 5 percent for employees. Both contributions and benefits are administered by Viet Nam Social Insurance (VSI). Old liabilities for pensions have been "grandfathered" into the current system and over 80 percent of the cost of today's benefits is paid from tax-funded central subsidies, as contributory finance has only been systematically in place since 1995. Social Insurance Benefits are described in Text Box 1.1

Viet Nam Health Insurance, established in 1995, covers around 13 percent of total population (Justino 2005 p 6) and has compulsory and voluntary schemes. Hypothecated compulsory contributions from formal employment are at the rate of two percent from employers and one percent from employees.

#### Text Box 1 : Social Insurance Benefits

##### Short-term Benefits

*Maternity benefit* is paid to breast-feeding women for up to four months. Benefits also include up to three days leave for pre-natal health checks.

*Sickness benefits* range from 30 days to 60 days per year with longer entitlement for those working in hazardous conditions and with long contribution records. All sickness is certified by healthcare providers. Benefits also cover leave for children's sickness of a maximum between 15 to 20 days per year). Longer awards up to a maximum of 180 days per year, irrespective of contribution record, are available if the insured has a disease that requires long-term treatment.

*Industrial injury and occupational diseases* covers injury and disease at work and during journeys to and from work. Employers pay all expenses, including salary and medical expenses. Insurance benefits are calculated when the condition and its effect on working capacity and disability can be determined. The benefits range from a one-off payment equivalent to 4 months' salary at minimum salary level to a one-off payment of 12 months' salary. An employee who loses more than 31% of their working capacity, will be paid monthly benefit by social insurance, the benefit ranging from 40% minimum salary level to 160% minimum salary level .

*Job loss & redundancy:* can lead to a one-off payment equivalent to half the monthly wage for each working year

##### Long Term Benefits

*Pensions* are paid to those with a minimum of 20 years contribution (15 years for those working in hazardous conditions) to men aged 60 and over and to women aged 55 and over. Pensions range from 45% to 75% of the average wage used for the calculation of contributions; minimum pension levels equivalent to minimum wage levels. Pensions can be paid at earlier ages in cases the working capacity loss of more than 61% but levels of pension are reduced in these instances by 2% for each year under pensionable age.

*Death benefits* are paid to survivors who are children under 18, spouse, parents and parents in law of contributors who have over 15 year social insurance contributions. Monthly benefits of between 40% to 70% of minimum salary level or a one-off payment of up to twelve months' salary can be paid.

Voluntary health insurance is available through the purchase of cards usually valid for one year. One major group covered by voluntary insurance are school pupils and students in pilot areas, for whom there are institutional pressures to join the scheme. The level of voluntary contributions varies by school type and between each pilot programme<sup>3</sup>. Altogether, about 20% students and pupils participate in the programme<sup>4</sup>.

In 2002, there are about 12.6 million people insured, in which 4.2 million participated in voluntary insurance schemes. In total, 16 percent of the population were insured in 2002<sup>5</sup>.

There is widespread avoidance of formal social security contributions for several reasons. First because many waged jobs are not themselves formalised and take on characteristics that are more akin to self-employment or "cash in hand" employment. Second, even where a formal contract of employment exists, the salary that is taken into account for social security contributions can be manipulated to avoid liability. Contributions are paid on what is known informally as the "hard salary", normally the salary shown in the employment contract. In government enterprises and public service, hard salary is based on Decree 26/CP<sup>6</sup> which is revised in order to set basic salary (or level 1 salary) at VND 350,000 per month<sup>7</sup>. Seniority is reflected in salary levels that are multiples of this basic level. Many government entities use the "hard salary" for calculation of social insurance contribution and health insurance<sup>8</sup>. However, the majority of avoidance of contributions occurs in what is known as "soft salary": benefits and bonuses given to the employees. Normally these payments are not calculated in the social insurance contributions but may be included in income tax assessment. There are two types of bonus: monetary bonuses, which can be calculated in the employee's income for income tax, and "in kind" bonuses which may not<sup>9</sup>.

Typically, social insurance is deducted directly from the gross salary and payment of social insurance and health insurance are still considered companies' responsibilities<sup>10</sup>. Normal practice is that there is uncertainty and ambiguity about the level of hard and soft salary, and formal notification is rare so many employees may not know their gross salary level. Large foreign companies and organizations tend to be different and more clearly inform both net and gross salary in job advertisements, but practice varies widely among small companies.

These practices lead to two important results for this report. First, uncertainty about gross earnings levels puts constraints on accurate data collection in VHLSS as respondents can identify benefits received from but not contributions made to the system. Second, this results in significant problems of measurement and interpretation of the effects of social security on household income. We return to discuss these problems later in this chapter.

Estimates of social and health insurance coverage vary. Jowetta, et al (2003) list the uninsured as 0.9 million working in the formal sector (15% of those working in formal sectors, such as civil servants, retired government, and large companies) and 29 million informal workers. Data on social insurance shows that the number of socially insured has risen by 20 per cent between 2000 and 2004 - from 4.1 to 5.8 million (MOLISA 2006).

<sup>3</sup> According to Circular No. 40/1998/dated July 18, 1998 jointly issued by MOET and MOH, the premium ranges for voluntary insurance are 15-25,000VND for students of primary and lower secondary school pupils, VND 30,000-40,000 for students of upper secondary schools, vocational training schools and universities. The Presidents of the PC of the provinces/cities will decide the premium levels based on the socio-economical situation of the localities within the above framework. An example: a primary school pupil in Ha Noi has to pay VND 30,000 for health insurance for the year 2005 (data provided to the authors).

<sup>4</sup> MOH and GSO, 2003. National Health Survey 2001-2002, Theme Report: The situation of Health Insurance in Viet Nam, MOH and GSO, Ha Noi. (page 4).

<sup>5</sup> Ibid (page 5)

<sup>6</sup> Decree 26/CP: Decision on the minimum salary level

<sup>7</sup> This level is regularly updated by the government.

<sup>8</sup> Informal interview with an accountant from the government system.

<sup>9</sup> Bonus by objects such as lunch provision or tours to other countries. Sometimes bonus" can be transferred to money by the employee.

<sup>10</sup> See the debate at the Congress by Madame Hang, Minister of MOLISA.

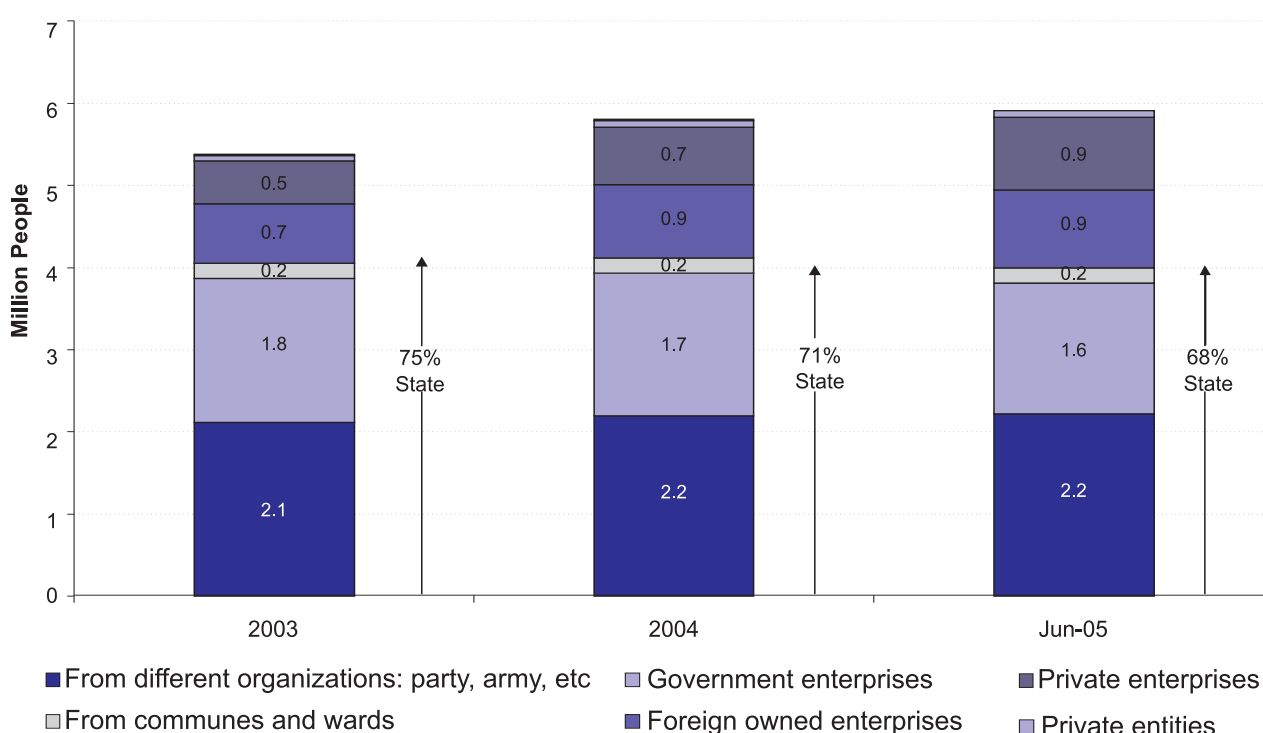
## How Progressive is Social Security in Viet Nam?

**Table 1.1 : Viet Nam Social Security and Health Contribution Revenue 2000-2005**

| Year | Total of contributions for social insurance (billion VND) | Total of contributions for health insurance (billion VND) | Total as % of GDP (GNP) |
|------|-----------------------------------------------------------|-----------------------------------------------------------|-------------------------|
| 2000 | 5,198                                                     | 971                                                       | 1.4%                    |
| 2001 | 6,348                                                     | 1,151                                                     | 1.5%                    |
| 2002 | 6,963                                                     | 1,270                                                     | 1.5%                    |
| 2003 | 6,964                                                     | 2,027                                                     | 1.4%                    |
| 2004 | 10,703                                                    | 2,301                                                     | n/a                     |

Source: Data from VSI and Viet Nam Development Report 2005 table 2.4/a

**Figure 1.1: Social Security Contributors by Sector and Type of Employer**



Source: MOLISA 2006

Figure 1.1 shows individual contributors broken down by sector and type of employer and clearly shows that, while the share of public employees is gradually falling over time they still make up the majority of contributors - from 75 per cent in 2003 down to 69 per cent in mid 2005.

Spending on social security income transfers is shown for years 2002 to 2004 in Table 1.2. Overall growth is 59% in nominal terms over three years. But the fastest growing area of retirement pensions is also the largest element of social security spending by far (85 per cent of all). Almost 90 per cent of growth in all nominal social security spending comes from increased pension spending.

**Table 1.2: Viet Nam Social Security Benefit Payments 2002-2004** (billions of VND)

|                        | Long-term VSI Benefits |                                    |                    | Short-term VSI Benefits          |                    |                                 | Total  | As % of GNP |
|------------------------|------------------------|------------------------------------|--------------------|----------------------------------|--------------------|---------------------------------|--------|-------------|
|                        | Retirement Pensions    | One time social insurance payment* | Survivors benefits | Sickness and Invalidity Benefits | Maternity Benefits | Industrial injury/death benefit |        |             |
| 2002                   | 6,987                  | 395                                | 280                | 182                              | 340                | 51                              | 8,236  | 1.5%        |
| 2003                   | 10,212                 | 361                                | 381                | 208                              | 519                | 67                              | 11,747 | 1.8%        |
| 2004                   | 11,243                 | 521                                | 408                | 246                              | 568                | 74                              | 13,059 | n/a         |
| Nominal Growth 2002/04 | 60.9%                  | 31.9%                              | 45.5%              | 34.8%                            | 67.4%              | 43.9%                           | 58.6%  |             |

Source: Data from VSI

Spending on social security pensions is at the moment dominated by the cohort of workers who were public workers prior to 1995 when the new rules for contributory pension were introduced but who will retire receiving pensions "grandfathered" from the present scheme. This cohort will continue to dominate spending on pensions for the foreseeable future.

Table 1.3 shows the numbers receiving social insurance benefits. These data represent cumulative totals of beneficiaries over each year, and this means that comparison of totals for long-term and short-term benefits requires care. Claimants of long-term benefits are likely to claim once, and then continue to be entitled to benefits from that point onwards, and this means that a cumulative count over a year will be close to a cross-sectional count of those receiving benefits at any point of time. However, cumulative counts of short-term benefit recipients will count many short periods of entitlement and cannot be easily interpreted cross-sectionally. This point is important when we try to compare profiles from administrative data and VHLSS - a cross-sectional household survey. We can safely say that at any time pensioners are the largest single group of social security beneficiaries, around 1.4 million in 2004. There are a further 200,000 survivors benefits recipients. Short-term benefits in payment reflect the number of people who have claimed within the year, and sickness and invalidity benefits have large claim rates - around 1.8 million claims in 2004. Linking back to the figures in Figure 1.1 means that a large proportion of the 6 million contributors claimed sickness benefits although we can not identify an exact claim rate. Maternity benefits were claimed by over 200,000 women in 2004. Nominal growth in claims is very high in short-term benefits - having risen almost 40 per cent between 2002 and 2004 for sickness benefits and by over 60 per cent for maternity benefits.

**Table 1.3 : Numbers of Social Security Benefits in Payment 2002-2003**

|                  | Long-term VSI Benefits |                                    |                    | Short-term VSI Benefits          |                    |                                 |
|------------------|------------------------|------------------------------------|--------------------|----------------------------------|--------------------|---------------------------------|
| 000s             | Retirement Pensions    | One time social insurance payment* | Survivors benefits | Sickness and Invalidity Benefits | Maternity Benefits | Industrial injury/death benefit |
| 2002             | 1,274                  | 143                                | 200                | 1,279                            | 139                | 26                              |
| 2003             | 1,309                  | 113                                | 204                | 1,511                            | 218                | 28                              |
| 2004             | 1,365                  | 147                                | 211                | 1,761                            | 223                | 31                              |
| Growth 2002-2004 | 7.1%                   | 2.4%                               | 5.6%               | 37.7%                            | 60.6%              | 16.8%                           |

Source: Data from VSI

These figures clearly indicate that social and health insurance are not progressive in redistributive impact as emphasised by Justino (2005). The social insurance system covers only 11 percent of the labour force and does not reach those most in need. The majority of the population covered by existing social insurance arrangements consists of people in formal employment, especially in the public sector, and thus in the middle and upper income groups (Viet Nam Development report, 2004).

### 1.1.2 Social Guarantee Fund for Veterans and War Invalids

The thirty years of war that led to the independence and unification of Vietnam created many who were injured or bereaved and the effects of war through contamination and resulting birth defects has continued into recent times. The 8th Central Communist Party Committee in 1997 resolved that those who had suffered injury or bereavement from the liberation wars should be ensured an average income level through social transfers and subsidies. There are thus a series of transfers and benefits in kind from the Social Guarantee Fund for veterans of the liberation struggle, war invalids and survivors and those disabled as a direct consequence of the war. Direct transfers are reported as covering around two to three percent of the population in 1999 (Justino 2005) but indirect subsidies cover a wider population. The levels of monthly transfers range from VND 175,000 for survivors and for those with up to 61% of working capability, to VND 752,000 for those who lost 100% working capability. Total spending on the programme was around VND 4,000 billions in 2004. There is however, considerable overlap between beneficiaries of state pensions and war invalidity benefits.

Other in-kind social and economical support for war disabled and survivors include medical insurance for around 1.1 million people, housing support for around 14,000 and grants for business development. Local schemes that assist in constructing housing- for instance for "hero mothers" also exist.

### 1.1.3 Social Guarantee Fund for Regular Relief

Regular monthly income transfers from this fund cover a very small population, Justino estimates around 0.3 per cent (Justino, 2005 p16). Lack of budgetary resources and weak management of the programme are major constraints as national funding is inadequate and local government cannot make up the shortfall, and as a result most intended beneficiaries are excluded and those who do benefit receive such small amounts that the programmes do not have the intended impact on living standards. Assistance levels vary by province, district and even commune. In the late 1990s, these funds account for only 0.3 percent of total government expenditure.

Table 1.4 shows that the number of people benefiting from these programmes has doubled since 2001, with new beneficiary groups of the very elderly and people with HIV/AIDS being added. The more established programmes have also grown significantly, almost doubling for orphans and disabled people, while the programme for elderly and poor disabled households has grown by two-thirds.

**Table 1.4 : Regular Relief Recipients**

|                                    | 2001 | 2002 | 2003 | 2004 | 2005 | Growth 01-05 |
|------------------------------------|------|------|------|------|------|--------------|
| Isolated elderly and poor disabled | 68   | 73   | 77   | 103  | 110  | 62%          |
| Orphaned children                  | 24   | 39   | 32   | 45   | 47   | 96%          |
| Disabled                           | 90   | 111  | 120  | 155  | 179  | 99%          |
| Elderly above 90                   |      |      |      | 26   | 70   | --           |
| People with HIV/AIDS               |      |      |      |      | 10   | --           |
| Total                              | 182  | 223  | 229  | 330  | 416  | 129%         |

Source: MOLISA 2006,

Targeting for these and other subsidies described in the following section for health and education is mostly through an administrative definition of poverty adopted by MOLISA. For the period 2001-2005 these income poverty lines are based on per capita income and differ according to areas as follows.

- Mountainous and remote areas: VND 80,000 per month (VND 960,000 per year)
- Other rural areas: VND 100,000 per month (VND 1,200,000 per year)
- Urban areas: VND 150,000 per month (VND 1,800,000 per year)

One of the drawback in the targeting criteria is that the MOLISA only defines "Poor household", while accurate policy implementation requires the assessment of each individual in the households. Hence, in many provinces the listing process of poor people is still slow and targeting of beneficiaries is not well managed. Identification differs between districts and provinces. In a study on healthcare fund for the poor in Bac Giang and Hai Duong provinces, identification of the poor is not done at village level in some villages. There are still persons who should be identified as poor, but in fact they are not. There is no feedback mechanism to change the decision <sup>11</sup>. In others criteria set by MOLISA were not followed and the targeting was done according to the targets set under central planning <sup>12</sup>. However, the majority of these implementation issues affect the targeted programmes, to which we now turn.

#### **1.1.4 Targeted Anti-poverty Programmes**

There are a range of anti-poverty programmes that either target communes with high levels of individuals identified as poor by MOLISA, or give assistance to geographically remote communes which usually have large ethnic minority populations. These programmes including HEPR and Programme 135 respectively provide a range of infrastructural assistance and benefits in kind and subsidised credit rather than direct cash transfers. Administered by MOLISA and CEMA they also involve both the Ministry of Health in the case of subsidies for health care and the Ministry of Education and Training for school fee exemptions alongside the Ministry Agriculture and Rural Development for agricultural and business extension schemes and the State Bank of Viet Nam for credit programmes.

Joint UNDP-MOLISA evaluation found that the targeting was generally effective with most recipients being very poor (UNDP 2004). This is partly because the MOLISA poverty line used to identify the poor is significantly lower than the General Statistical Office's poverty line based on VHLSS

We focus our discussion on elements of these programmes that are seen to affect household income most directly, health and education, which, as we discuss in the next section, are most clearly identified in the VHLSS data that underpins our analysis of the system in later chapters. However, it is worthwhile giving some indications of the size and extent of some of the other services and assistance. Micro credit over the four years from 2002-2005 was given to 3,418 million poor households with a total budget of VND 12,899 billions. It has been estimated that 75% poor households have received this type of support, accounting for 15.8% the population. Most poor households have used the loan effectively and returned the money as scheduled; only 2% of the loans were reported as overdue. Land allocation has also occurred in some provinces (Tay Nguyen) with land being allocated to the poor. In other provinces, households received a loan to redeem land. Agriculture extension for the poor households has helped around about 2 million poor households with training for new agriculture technologies and aims at sustainable poverty eradication through improving productivity and incomes. Infrastructure development in poor areas has improved the local conditions often in mountainous areas with the construction of schools, medical facilities, dykes and roads.

<sup>11</sup> Axelson et al, The impact of the Health Care Fund for the poor households in two provinces of Viet Nam, Paper submitted to Global Forum for Health Research Forum 9, Mumbai, India, September 2005.

<sup>12</sup> Viet Nam Development Report 2004, Poverty Joint Donor Report to the Viet Nam Consultative Group Meeting, Ha Noi, December 2-3, 2003.

Assistance with school education and with health care costs from these targeted programmes are a mixture of direct and indirect subsidies but as we see later in this chapter, the elements of these subsidies that are paid to households, together with education scholarships, are taken into consideration as household income in official Vietnamese definitions of income. To understand and analyse how these subsidies impact on households and their progressivity it is thus necessary to briefly describe the institutional and charging regimes for education and health.

### School Education

The state school education system consists of compulsory primary education commencing at age six (Grades 1 through 5); lower secondary education, which is not currently compulsory but is planned to become so, for those with Primary diploma and aged 11 and over (Grades 6 through 9) and higher secondary education for those aged 15 and over with lower secondary diploma (Grades 10 through 12). There are also professional secondary education and vocational training alongside a tertiary college and university sector. Those young people aged 18 and over who do not continue in education are conscripted into national service in the armed forces. Pre-primary provision exists through nursery and kindergarten provision.

All schools are formally under the Ministry of Education and Training (MOET) but direct control of schools is devolved so that nursery schools, Kindergarten, Primary Schools, and Lower Secondary Schools are under the Chairman of District People's Committee and supervised by District Education and Training Department. Upper-secondary schools along with professional secondary education schools and vocational training schools are under the Chairman of Provincial People's Committee and supervised by Provincial Education and Training Department.

Overall enrolment rates are high for primary schooling (see Chapter 4 for VHLSS evidence) but with large variation between areas, for instance a reported low of 42.7 per cent of five year olds enrolled in the Mekong Delta compared to around 80 per cent overall. Ethnic minority communities such as the H'mong and the Dao have enrolment rates of 41 per cent and 71 per cent respectively at primary school level. UNICEF reports that around twenty per cent of children do not complete grade 5 and that around seventy per cent of the dropouts are girls <sup>13</sup>.

The target for the enrolment in the Education Strategy 2000-2010 is to increase the enrolment rate of 5 year old children from 81% in 2002 to 85% in 2005 and 95% in 2010. It is also targeted for 2010: 20-25% children under 3 years old go to nursery school, 75-80% children from 3 to 5 go to kindergarten school and 98-99% children at 5 year old go to kindergarten schools prior to enrolling into grade 1.

Enrolment and attendance are influenced by location, cost and school hours. While most communes have a primary school, this is not the case in remote areas. For instance, The Central Highlands area has several provinces in which less than 40 per cent of communes have primary schools.<sup>14</sup> School hours at primary level are mostly part-time with average teaching hours of 16.7 per week. The 35 week school year starts in early September 5 and is based on 6 sessions a week of less than 4 hours. Whenever possible, 2 sessions each day is promoted in law and policy but the infrastructure such as sanitation and buildings are often inadequate to allow pupils full day attendance so that on average only 19 per cent of all primary pupils attend two classes per day (MOET 2006, page 6).

Education finance depends on both Government budgets, which vary by locality, and on fees and charges. The range of charges is considerable. There are no tuition fees for primary education, but in reality there are a range of charges at primary level which can include school construction fees, parental contributions both at class and school levels, text books and equipment, uniforms and additional classes. Lunch costs and care costs are also charged in full-day schooling. Post-primary costs include tuition fees and overall education costs accounted for approximately 2.9% of household expenditure in 2002.

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<sup>13</sup> See Situation of Girls' Education in Viet Nam, UNICEF, retrieved from UNICEF website on November 29, 2005 at [http://www.unicef.org/vietnam/girls\\_education\\_211.html](http://www.unicef.org/vietnam/girls_education_211.html)

<sup>14</sup> EU Study 'Towards an Action Plan for the Central Highlands of Viet Nam', draft report, August 2005, page 7.

There are both formal and informal charges and widespread provision of additional classes for payment by teachers. The costs of these varies considerably from 20,000VND - 50,000VND per child per class with often 2-3 classes per week, but costs may fall to 5,000 VND in poorer areas<sup>15</sup>. It is estimated that contribution from school fees and school construction fees account for about 25% of the total budget for education<sup>16</sup>. Pre-school nurseries and Kindergartens are available in almost all communities, for both rural and urban areas, providing full day care to children with monthly costs in the region of VND 150,000 in urban areas and VND 130,000 VND elsewhere<sup>17</sup>.

### Education subsidies and scholarships

These form the majority of subsidies applied through the targeted programmes, with fee waivers associated with an increase in school attendance from poor households of at least 20%<sup>18</sup>. Other subsidies include cheap school materials and text books and scholarships.

Tuition fees can be waived in part or in total for poor households and in areas of targeted assistance so that in 2002, 1.5% of 6-14 year old school pupils received partial and 15.2% full exemption<sup>19</sup>.

There was VND120 billion allocated for education support during 2001-2002<sup>20</sup>. It is estimated that about 3 million poor children received some form of support, 5.5% of all households received partial or full tuition exemption and nearly 20% poor households were covered by the programme<sup>21</sup>. Table 1.5 shows the coverage and budgets for years 1999-2000 up to 2002, more recent data has not been made available for comparison with VHLSS 2004.

**Table 1.5 : Education Subsidies and Scholarships from Targeted Programmes**

|                                      | 1999-2000 | 2001   | 2002 |
|--------------------------------------|-----------|--------|------|
| No. of provinces covered             | 38        | 50     | 39   |
| <b>Tuition Fees</b>                  |           |        |      |
| Students covered (000s)              | 2660      | 2004*  | 851  |
| Budget (billion VND)                 | 95        | 39     | 42   |
| <b>Books and School Materials</b>    |           |        |      |
| Students covered (000s)              | 1640      | 1650** | 720  |
| Budget (billion VND)                 | 37.8      | 6.7    | 3.1  |
| <b>Maintenance Fees</b>              |           |        |      |
| Student covered (000s)               | 1980      | 600    | 342  |
| Budget (billion VND)                 | 47.5      | 20     | 8.3  |
| <b>Scholarships</b>                  |           |        |      |
| Students granted scholarships (000s) | --        | 20     | 12.5 |
| Budget (billion VND)                 | --        | 5      | 3.1  |

\* including 730,000 poor children who were also exempted

\*\* including 1.35 million poor children who were granted free books

Source: UNDP, 2004

<sup>15</sup> Informal discussion with teachers at Nursery and Primary Schools.

<sup>16</sup> MOET, Five year Strategic Education Development Plan, 2006-2010, Ha Noi, July 2005, Page 9

<sup>17</sup> Informal discussion with teachers at Nursery and Primary Schools.

<sup>18</sup> UNDP, 2004, Taking stock, planning ahead: Evaluation of the National Targeted Programme on Hunger Eradication and Poverty Reduction and Programme 135, Ha Noi, Viet Nam.

<sup>19</sup> Viet Nam Managing Public Expenditure For Poverty Reduction And Growth", A Joint Report of The Socialist Republic of Viet Nam And The World Bank, Financial Publishing House, April 2005

<sup>20</sup> Ibid.

<sup>21</sup> Ibid.

Evaluation suggests that these subsidies provide "marginal relief" from the direct financial costs of schooling for poor children but that coverage of the poor is not complete and the process of identifying who should receive waivers is not transparent. There is also significant stigma attached to receiving these subsidies for children and their parents<sup>22</sup>.

### Healthcare

The Vietnamese healthcare system is organised into four levels led at the national level by the Ministry of Health which manufactures, assigns prices and distributes all local pharmaceuticals and medical equipment to the health system, and has the primary responsibility to provide both preventive and curative services. The Ministry consists of 15 departments and is additionally responsible for the national medical education. At the provincial level, there are provincial hospitals, Maternal and Child Health and Family Planning Centres and secondary medical schools. The provincial hospitals provide technical assistance to the lower tier District Health Centres (DHC) which in turn supervises the lowest tier of health care provision, commune health centres.

The healthcare budget is financed from a mixture of government revenue and charges. User fees were introduced into the public health system in 1989 along with exemption criteria for some groups. Provincial level fee setting occurs under central Ministerial guidance. Of the revenue received from fees, 70% is set aside for reinvestment in equipment, 25-28% for paying bonuses to health workers, and 2-5% is paid to the central government to support other health providers who do not charge user fees (such as Paediatric and Tuberculosis hospitals).

Healthcare totalled around 7% of household expenditures in 2001/02 compared with 11% in 1998-1999<sup>23</sup>. This spending is a mixture of formal and informal fees paid out to public and private providers. Informal fees charged by staff in healthcare are considered a substantial part in the total household healthcare expenditures for both the insured and uninsured, and rise for inpatients as they move from commune to districts to provincial level providers. The proportion of gifts as "other expenses" from inpatient care rises from 12% to 27% and 30% respectively at commune, district and national levels for the insured, and 17%, 18% and 23% respectively for the uninsured<sup>24</sup>. Informal fees and gifts are applied in both private and public sector, but are proportionately higher in the public sector, 4% compared to 1% for private services.<sup>25</sup> Overall it has been estimated that these account 11% of total expenditure for hospital treatment, although this estimate seems high<sup>26</sup>.

Private healthcare and health insurance have expanded since doi moi, and the previously free and comprehensive primary healthcare system has deteriorated as the results of the disintegration of Collective Farmers and the reduced general subsidies for health. The poor facilities and quality of service available at Commune Health Centres means that these are no longer the first place people seek health care. Faced with formal and informal fees many seek direct help from private pharmacies but this means that payment for partial treatments, especially for antibiotics, is common and has a resulting threat of raising antibiotic resistant strains of disease (Trivedi 2004). According to the National Health Survey 2001-2002, about 51.2% of health staff interviewed reported that they worked for both government and private clinics. Private health services are primary choices for outpatient care and account for 50% - 63% of all outpatient services. The average distance to private health clinics for outpatient care is about 5 km while it is on average a 15 km journey for patients seeking services at higher levels of public service delivery<sup>27</sup>. There is less difference in access to inpatient care provided by the two sectors<sup>28</sup>. According the National Health Survey 2002, an outpatient visit cost on average VND 34,000, including examination, lab tests and transportation.

<sup>22</sup> Edwin Shanks and Carrie Turk, Policy Recommendations from the poor, Viet Nam Local Consultations on the Draft Comprehensive Reduction and Growth Strategy (Volume II: Synthesis of results and findings), report for the Poverty Task Force, Ha Noi

<sup>23</sup> National Health Survey 2001-2002, Theme Report: The situation of private health sector, MOH and GSO, Ha Noi, 2003, page 38.

<sup>24</sup> National Health Survey 2001-2002, Theme Report: The situation of private health sector, MOH and GSO, Ha Noi, 2003 (page 38).

<sup>25</sup> Data imputed from the National Health Survey 2001-2002, Theme Report: The situation of private health sector, MOH and GSO, Ha Noi, 2003 (page 29).

<sup>26</sup> Pham T Dong, Pham T Thanh, Dam V Cuong, Duong H Lieu, Nguyen H Long, User fee, health insurance and utilization of health services, MOH and Central Commission for Science and Education, September, 2002.

<sup>27</sup> National Health Survey 2001-2002, Theme Report: The situation of private health sector, MOH and GSO, Ha Noi, 2003.

<sup>28</sup> National Health Survey 2001-2002, Theme Report: The situation of private health sector, MOH and GSO, Ha Noi, 2003 (page 57)

### Targeted Healthcare subsidies

Individuals who are classified as poor (see above) are entitled to receive a health insurance card, valued at 70,000 VND per year, funded by the Provincial People Committees. In 2003, actual funds available in the Fund were VND520 billion, accounting for 68% of the total initial budget from the government budget for the Fund.

**Table 1.6 : Regional Allocation of Health Subsidies for the Poor 2003**

| Region               | Population        | Number of Target Beneficiaries | Fund available (in million dong) | Percentage of Total Fund |
|----------------------|-------------------|--------------------------------|----------------------------------|--------------------------|
| Northern mountainous | 14,255,627        | 4,743,730                      | 125,171                          | 24.0                     |
| Red River Delta      | 15,464,629        | 995,662                        | 43,189                           | 8.3                      |
| North Central        | 10,402,923        | 2,232,081                      | 79,900                           | 15.3                     |
| South Central        | 6,898,077         | 865,530                        | 40,645                           | 7.8                      |
| Central Highland     | 4,641,247         | 1,905,786                      | 73,419                           | 14.1                     |
| South East           | 13,000,275        | 1,039,888                      | 44,178                           | 8.5                      |
| Mekong River Delta   | 17,618,787        | 2,584,490                      | 114,111                          | 21.9                     |
| <b>Total</b>         | <b>82,281,565</b> | <b>14,367,167</b>              | <b>520,614</b>                   | <b>100.0</b>             |

Source: MOH, 2004

According to initial estimates, the total number of beneficiaries eligible for examination and treatment under the poor policy Decision 139 is approximately 14.3 million or around 17 per cent of the population. A total of 11 million people had received benefits from the health services by December 2003 either through a Health Insurance Card (3.6 million) or through reimbursement of actual expenses (7.4 million). Total effective coverage is thus around 11 million, while around 3.3 million people (or 23.7 per cent of the target beneficiaries) have not benefited from health care provision for the poor <sup>29</sup>.

The targeting effectiveness on poor households depends on accurate identification in the hamlets and villages where they live. Priority is given to the elderly living alone without any support, orphans who do not have care givers, and disabled people living in poor households. Groups that qualify for regular relief are as outlined in the preceding section. The local commune Peoples' Committee construct the list. They provide a history of all selected people and submit this to the District PC for approval and forwarding to provincial departments of Labour, Invalid and Social Affairs (POLISA). POLISA coordinates with relevant bodies to propose the number of the poor who could receive healthcare cards within their budget for approval by the provincial PC. POLISA then purchases healthcare cards from the local health insurance agencies and distribute these to the District PC, who in turn provides cards to Commune PCs who distribute the cards to households. It is estimated that only 9.5% of the poor receive poor household certificates and 9.9% receive the health care card (Viet Nam Development Report 2004). Several provinces were late in setting up the schemes and there is little consistency in the provision of healthcare cards between provinces.

### 1.1.5 Taxation and Paying for Social Protection

Income taxation plays a very small role in Vietnamese fiscal policy. While taxation totalled 20 per cent of GDP in 2004, the majority of tax revenue comes from tax on trade, business income and sales. Only 2.7 per cent of overall revenue comes from income taxation (Haughton, The Quan and Hoang Bo 2006). Overall centrally run taxes are slightly progressive (ibid p234).

<sup>29</sup> MOH, Report on the Assessment of 1 Year Implementation of Examination and Treatment for the Poor, Ha Noi, March 2004

**Table 1.7 : Personal Income Tax bands and rates 2004**

| Level | New annual income thresholds (for marginal rates, effective from July 1, 2004) | Tax rate (%)          |
|-------|--------------------------------------------------------------------------------|-----------------------|
| 1     | Up to VND 5 million                                                            | 0                     |
| 2     | Above VND 5 million - VND 15 million                                           | 10                    |
| 3     | Above VND 15 million - VND 25 million                                          | 20                    |
| 4     | Above VND 25 million - VND 40 million                                          | 30                    |
| 5     | Above VND 40 million                                                           | 40                    |
| 6     | N/A                                                                            | 50 (plus wealth tax*) |

\* Wealth tax of 30% is imposed on net income in excess of VND 15 million after applying current income tax marginal rates

Source: KPMG

Personal income tax is payable on incomes over VND 5 million per year and there are four tax bands with rates from 10 to 50 per cent. These are shown in Table 1.7. Other taxation at the household level occurs when large assets (land, house, motorbike, car, etc) are sold; the seller has to pay the following tax: asset transference (four per cent of total value<sup>30</sup>) and a stamp duty of one per cent.

Indirect taxation of consumption through VAT constitutes one of the main government revenues, accounting for 5.4% GDP (IMF, in Viet Nam Development Report, 2005)<sup>31</sup> and 24.96% of total tax<sup>32</sup>. VAT at a rate of 10% is applied to most goods, although some goods such as wine and tobacco are taxed at 20%. Most agriculture products receive a preferential tax rate of 5%. Two-thirds of VAT proceeds come from the two richest quintiles of the population. Poor households' reliance on domestic production consumption and informal supplies mean that they tend to pay little in VAT<sup>33</sup>.

The most regressive part of the tax system is at the local level where a series of charges for local environmental, police and other services are levied. Some of these relate to school and pre-school charges that have been discussed previously. Local fees and charges account for more than one percent of GDP<sup>34</sup>. These charges derive in part from the gap between government budget allocations to local level government and local needs and the fiscal pressure on poorer localities can increase the regressivity of these charges. In addition to formal charges, there are also informal charges and gifts to local public servants for any services - including registration of the household as resident in the area.

### 1.1.6 Informal Social Protection

Viet Nam has a large informal sector that spans across private households, state services and the market economy. Informal employment is the norm, either in self-employment or through informal sector waged employment. Inter-household remittances are widespread and, as already mentioned, petty corruption is endemic in public services, *"Low salaries, light punishments for graft and a bureaucratic administration in which opportunities for bribes are widespread combine to foster a culture of corruption."* (EIU 2006 p 7) The informal economy also includes informal loans between individuals, the traditional gifts of money for the Tet festival, for weddings and for funerals and other cash transfers that are sometimes referred to by Vietnamese as "the envelope economy".

<sup>30</sup> The value will be assigned by government sub-documents based on the market.

<sup>31</sup> Viet Nam Development Report 2005, Governance, Joint donor report to the Viet Nam Consultative Group Meeting, Ha Noi, December 2004, page 38.

<sup>32</sup> Source: KPMG, 2004, Flash International Executive Alert, KPMG, download on February 1, 2006 from <http://www.us.kpmg.com/ies/flashalerts>

<sup>33</sup> Viet Nam Development Report 2005, Governance, Joint donor report to the Viet Nam Consultative Group Meeting, Ha Noi, December 2004, page 42.

<sup>34</sup> Ibid, page 42.

The cost of corruption is an additional informal charge or tax on households but both the informal employment sector and inter-household remittances provide very considerable resources. All in all, private inter-household remittances far outstrip the formal social security transfer system (Cox 2004) and it is this part of the informal economy that is of most interest to later analysis in Chapters 2 to 4.

Vietnamese culture, influenced by Buddhist and Confusion beliefs, encourages adult children to provide for their elderly parents living expenses. Such remittances can be regular or on certain occasions (e.g. Tet). The amount of money given reflects both the status and economic power of the children. These traditional exchanges have not declined since *doi moi*, and may even have grown in line with the economic boom. While children have direct responsibilities to their parents, there is also more limited familial responsibilities to siblings and to in-laws (aunts, uncles, cousins, etc) and informal transfers of these kind exist, for instance to siblings in rural areas from those living in the cities. One off mutual aid is dominated by events such as weddings and funerals, where there are real differences between rural and urban practices. Urban families are more likely to receive cash in an envelope while rural agricultural households set aside a substantial proportion of income/production for such events, especially during the last three months of the year when weddings, funerals and family reunions to remember the deceased most often happen. It is estimated that farmers spend around 20 per cent of household income on these events during some last months of the year. Any money collected is mostly used by the host for paying back for such events. Informal loans also dominate private household purchases of land and house construction with loans pooled among relatives and friends rather from the bank and charged at a "zero" interest rate.

Remittances are inter-household transfers and thus only relate to relatives who live apart. The pattern and extent of remittances is thus influenced by migration. Organized migration refers to participants in government sponsored programmes, such as recent coffee production schemes in Central Highlands. Spontaneous migration is recognized but not encouraged; spontaneous migrants are responsible for the costs of relocation and choice of destination and there are significant administrative barriers to migration, including the requirement to officially register residence in a commune. The 1999 Census showed that (accounting for 6.5% of the population over 5 years of age); nearly 4-5 million persons changed their place of residence between 1994 and 1999. This figure excluded short-term, unregistered movement, movement taking place 6 month before the census date and return migration. Over 50 per cent of migrants moved to urban areas. Migrants of 20-25 years of age accounted for more than 20% of all migration. The major destinations for urban centres include Ha Noi, Ho Chi Minh City, Dong Nai and Dak Lak. The latest migration survey conducted by GSO and UNDP (2004) showed another two regions attracting migrants are Northeast Economic Zone and Southeast Industrial Zone. The number of urban-to-urban migrants is similar to that of rural-to-urban migrants, with 1.13 and 1.18 million persons respectively <sup>35</sup>. The motivation for migration are mainly over-population, limited land, lack of non-farming jobs in the countryside, and better employment, income opportunities and educational facilities in the urban areas, particularly in Ha Noi and HCMC <sup>36</sup> (Dang et al 2003).

Remittances from migrants, particularly rural-to-urban remittances, are an important contributor to income and poverty reduction. According to Le and Nguyen, 1999 (quoted in Dang et al, 2003), remittances from migrants accounted for 38% of rural families' income and a survey by the Institute of Sociology in 1998 (ibid) showed migrant remittances contributed 60-70% total cash incomes of rural households <sup>37</sup>.

A recent survey by GSO and UNFPA (2004) showed that about 60 per cent of male and 57 per cent of female migrants in Ha Noi, HCMC, Northeast EZ, Central Highlands and Southeast IZ remitted from 1 million to less than 6 million to their rural households during the 12 months before the survey, while it also showed that women migrants remitted higher proportions of their annual income, 17 per cent, compared to 10 per cent for men. Remittances are mainly used by receiving families to cover normal daily expenses (by more than 60 per cent of families), but are also more specifically used for health needs (over 30 per cent), children's education (17-19%) and family events such as funeral feast, funerals and weddings (nearly 20%) <sup>38</sup>.

<sup>35</sup> Ibid.

<sup>36</sup> Le, M. T. and Nguyen D. V (1999), 'Remittances and the Distribution of Income', pp. 167-181 in Haughton, Dominique, et al (eds.) Health and Wealth in Viet Nam - an Analysis of Household Living Standard. Institute of Southeast Asian Studies, Singapore.

<sup>37</sup> Dang, N. A., Tacoli C. and Hoang X. T. (2003), 'Migration in Viet Nam: a Review of Information on Current Trends and Patterns and Their Policy Implications', April 2003.

<sup>38</sup> GSO and UNFPA (2004), 'The 2004 Viet Nam Migration Survey: Major findings', Statistical Publishing House.

The large overseas communities of Vietnamese, Viet Kieu (Vietnamese living overseas) have given rise to a growth in levels of international remittances into Viet Nam, especially after the elimination of overseas profit remittance tax in 2001. The high level of remittances help keep the country's current account deficit low (4.7% GDP in 2003) and were recorded at around USD 2.6 billion and 3.2 billion in 2003 and 2004 respectively, accounting for around 6-7 per cent of GDP<sup>39</sup>.

### 1.2 The Viet Nam Household Living Standards Survey

The VHLSS is a household living standards survey carried out by the General Statistical Office and funded by international donors which collects data on living conditions in private households across Viet Nam. The 2004 survey is the second of a planned bi-annual survey from 2002 to 2010. There is a longitudinal panel available for some of the 2002 respondents. Previous surveys were conducted in 1992-93 and 1997-98 but these surveys cannot be linked with subsequent surveys. The sampling frame is based on households chosen from the commune register in a representative selection of communes with coverage of all provinces and regions. The effective sample size is over 9,000 households containing over 40,000 individuals.

There are two main limitations of VHLSS in the analysis of household incomes, social security and poverty: first, sampling limitations and second, measurement and definitional limitations in the data that is collected. We discuss these in turn.

#### 1.2.1 The Sample

The construction of the sample using administrative commune-based records of registered households means that "unregistered" households are missing from the VHLSS. Viet Nam's recent rapid economic growth has led to significant levels of migration, mostly into urban areas but also between rural areas. Much of this migration is "unofficial" and does not lead to registration in the destination commune. While registration is supposed to limit migration without official sanction the actual effect is to establish significant populations that are extra-legally resident. A migration survey conducted in 2004 estimated that more than 50% of migrants living in renting houses are unregistered<sup>40</sup>. Not all of these migrants live in private households as they may be workers housed in dormitories or in other non-household situations as, for example, barracks for the armed services and similar residential accommodation is excluded from the survey.

What effect do these missing households have on VHLSS estimates? There is to date no accurate estimation of sampling bias but it is reasonable to presume that unregistered households will be on the whole poorer than average and estimates of poverty, and in particular, urban poverty will be biased downwards. The migration survey in 2004 also revealed that the average monthly income of unregistered migrants is lower than other registered migrants (VND 823,000 vs VND 957,000 respectively). Migrants in Tay Nguyen have lowest income (VND 504,000 per month). Additionally, many non-registered households will be engaged in informal sector economic activity such as street trading and casual employment and these will be under-reported. However, when it comes to social security, such households are in a double bind because their unregistered status will prevent them from access to official transfers and services and make them more vulnerable to informal graft and corruption from public employees.

#### 1.2.2 Measurement of Incomes and Social Security

There are several issues of measurement and definition that affect our analysis of incomes, poverty and social security.

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<sup>39</sup> Socialist Republic of Viet Nam (2005), 'Viet Nam Managing Public Expenditure for Poverty Reduction and Growth - Public Expenditure Review and Integrated Fiduciary Assessment'. Financial Publishing House, April 2004.

<sup>40</sup> Ibid 36.

First, VHLSS has individual and household level data but these are configured in a way that limits analysis of incomes and social security receipt. Individual level data is collected on education, training and health. Employment data is collected for all individuals aged six and over. All other data on income, expenditure, assets, tenure and infrastructural services and participation in HEPR are collected at the household level. This split between individual and household level data is not optimal for analysis of social security for several reasons. Some major areas of social security are thus not directly attributable to the individual level even where entitlement is based on individual rather than household circumstances. This is especially true for social insurance benefits awarded to individuals. Short-term social insurance benefits such as maternity and sickness are identified in earnings data at the individual level. Long-term benefits such as pensions, the large majority of spending on transfers, can only be identified at the household level and cannot be attributed to individuals. In some instances, where there is a single elderly person and no-one else in the household who could qualify then a individual level receipt can be inferred but in many instances such inferences are not possible without introducing new levels of data error and we have not done this. One underlying limitation is that relationships within households are defined by alignment to the nominated head of household and not additionally to each other individual and thus the relationship between other co-resident individuals can remain unclear in many instances. These problems of poorly identified individual level receipt of social security also limit our ability to look at behavioural effects and are discussed further in Chapter 4.

VHLSS data on income is of better quality than usually found in household surveys of developing countries. This is, in part, because expenditure data is asked of respondents alongside questions on income. This report uses income data to look at various definitions of household resources but continues to define poverty using expenditure data solely.

Self-employment and informal employment is the largest form of economic activity and this makes income estimation difficult in some instances, especially where necessary expenditure is seen to reduce net income from employment to very low or negative amounts. Obviously, there are clearly identifiable reasons why this can occur - investment in capital equipment or livestock in one year may reduce overall trading surplus and the gains from that investment not observed because they will accrue in following years, for instance. Similarly, some expenditure is very "lumpy" and large spending on, say, healthcare, may raise consumption levels above what would be normal for that household. We discuss these issues in more detail as they arise in Chapters 2 and 3.

The identification of benefits in kind and estimation of their value are difficult areas for accurate profiling of both incomes and consumption. Subsidies provided to service providers are rarely identified although net charges to households are. Where data on underlying in-kind subsidies are collected they can be incomplete and difficult to interpret - an example of this is in the "non-subsidised" school tuition charges where, as we explain in Chapter 4, data is often missing and presumably unknown in areas where all places are subsidised under certain programmes.

The issue of both sample bias and measurement come together when we consider how much social security is recorded in VHLSS. In theory, when the population weights are applied to the survey sample the recorded amounts of transfers and other subsidies should match the amounts in public expenditure data. There are however a number of reasons why this exercise in "grossing-up" is difficult. First, as we have seen in the first part of this chapter, the administrative data on social security may not be good enough. We have been unable to obtain 2004 spending totals for many programmes to compare to VHLSS totals. Where we have spending totals, there is little data to tell us of the reasons for and characteristics of receipt. Second, data quality in VHLSS may not accurately identify entitlement or amounts and, as we have already discussed, may be unattributable to individual circumstances. Third, the weights for the data are designed to ensure that overall population counts are correct provincial level and above and have no ability to counter sampling or response bias in the characteristics of the sample that may make some households more or less likely to participate due to income level, entitlement to social security or other reasons. Fourth, some spending will be on benefits in kind and services and not on transfers that can be grossed up from the survey. Nevertheless, the large differences between grossed-up totals for pensions and administrative figures on expenditure are of real concern and cast some uncertainty over the analysis of incidence and outcomes of social security using VHLSS.

**Table 1.8: Comparison of Public Expenditure and Grossed-up VHLSS Social Security Transfers**

|                             | Grossed-Up<br>VHLSS 2004 receipt<br>(billion VND) | Expenditure 2004<br>(billion VND) |
|-----------------------------|---------------------------------------------------|-----------------------------------|
| Education assistance        | 0.5                                               | n/a                               |
| Health assistance           | 2.4                                               | n/a                               |
| Short Term Social Insurance | 0.2                                               | 0.8                               |
| Social Welfare Payments     | 0.9                                               | n/a                               |
| Social Insurance - pensions | 6.6                                               | 11.6                              |

Source: Table 1.1 and Authors' calculations from VHLSS

In any analysis of social transfers from survey data it is advisable to be able to compare the gross levels of receipt across the whole population with public expenditure totals. Such cross-checking allows more robust conclusions about both incidence and effects of transfers on the overall income distribution. One major problem is the absence of expenditure totals for 2004 from the Government of Viet Nam. Table 1.8 provides provisional and crude comparison to illustrate both the public expenditure data problem and underlying uncertainty about how far VHLSS accurately reflects the receipt of transfers. Key elements of expenditure are either not known or not made available so that payments of education scholarships and assistance and health assistance to households and payments of Social Welfare can not be compared. Only grossed-up VHLSS totals of social insurance transfers can be compared and here there are worrying differences. Short-term benefits - maternity and sickness will always be under-recorded in cross-sectional data as previously discussed, but the apparent shortfall in recorded pensions is a major concern as these represent such a large proportion of all transfers.

Overall, data quality in VHLSS is very good and most of the issues for improving future analysis of social security and social protection are ones of questionnaire design and application. We discuss these in the conclusions. There are other limitations in data design and quality that limit our analysis and we bring these to the attention of readers when discussing analytical approach in the relevant chapters.

### 1.3 Summary

- This analysis takes a broad view of the term social security to include all public income transfers.
- The Vietnamese set of income transfers are a range of short-term and long-term social insurance benefits, of which the most important are retirement pensions; social welfare payments that include both categorical payments to war-disabled and survivors and smaller scale social assistance payments and finally, health care and education related transfers.
- As Vietnamese transfers include health and education related payments, a knowledge of the user-charges and administration associated with healthcare and schooling provision is essential for interpretation of their role and effectiveness
- Alongside the formal set of state transfers and user charges here is a much larger informal sector - both of payments between kin as remittances between households and in the informal charges to public sector providers through petty corruption.
- Expenditure and administrative data on social security is poorly available and there is a lack of clear financial transparency on public spending on transfers. Survey data in VHLSS is generally of good quality, but income data provides problem for measurement of progressivity because there is insufficient detail on individual level incomes and no recording of gross-salaries and contributions.

## 2. Income and Social Security

This chapter uses incomes to profile social security receipt and its progressivity. The first section uses the standard definition of income adopted by GSO to profile social security receipt. Section 2 redefines this GSO income measure into several new measures of gross and net disposable income in order to capture the effects of transfers, taxation, user charges and remittances in and out of households and their effect on the income distribution. Section 3 then addresses the issue of income progressivity through multivariate estimation of how far household income is associated with receipt of social security.

### 2.1 Household Incomes and Social Security

The standard definition of income from VHLSS adopted by GSO is based on individual level data on earnings from waged employment and on household level data for all other income sources. Individual level income from waged employment is reported as net income - minus any social security contributions or tax (less likely) taken from the wage packet at source. There is no identification of sums deducted for social security contributions or income tax and this reflects the fact that, as we have previously discussed in Part 1, employees rarely know what their true "gross salary" is, and that core or "hard" elements of wages liable for contributions are supplemented by additional "soft" payments that evade liability for taxation for both employers and employees. The collection of net take-home pay from respondents means that gross pre-tax total income from employment income is under-reported in the VHLSS and this makes any assessment of overall progressivity difficult as there is no direct evidence on who pays into the system.

VHLSS data on receipt of social security is mostly reported at the household level. We can identify households where one or more individuals receive payments but not which individuals do so. The only elements of social security that is identified at the individual level are short-term wage-replacement benefits for sickness and maternity, which respondents are asked to report as part of the overall waged income.

The computation of GSO's income definition is given in Box 2.1 below. We use this definition in the first instance to profile social security receipt because it is the accepted basic definition used in Vietnam and will have most resonance with readers there. To take account of household size we adopt the usual assumption in the Vietnamese and other development literature of per-capita income - i.e. total household income divided by the number of occupants of the household. In our accompanying paper on the elderly and pensions we explore this issue further and look at the effect of using incomes that are adjusted for differences in household composition and that take account of economies of scale. This is not discussed here in any detail.

It is clear that using this income definition allows us to only look at social security outputs in net terms and to ignore the effects of inputs - payments from today's contributors. This approach is likely to overemphasise receipt of social security by today's pensioners who, as we have seen from Part 1, account for the lion's share of contributory social insurance payments. It misses contributions into the system from today's employed wage earners and, if anything, it is likely thus to underestimate progressivity because today's wage earners have higher incomes on average than today's pensioners.

#### Box 2: GSO Income Definition

Household income is composed of the total of the following components

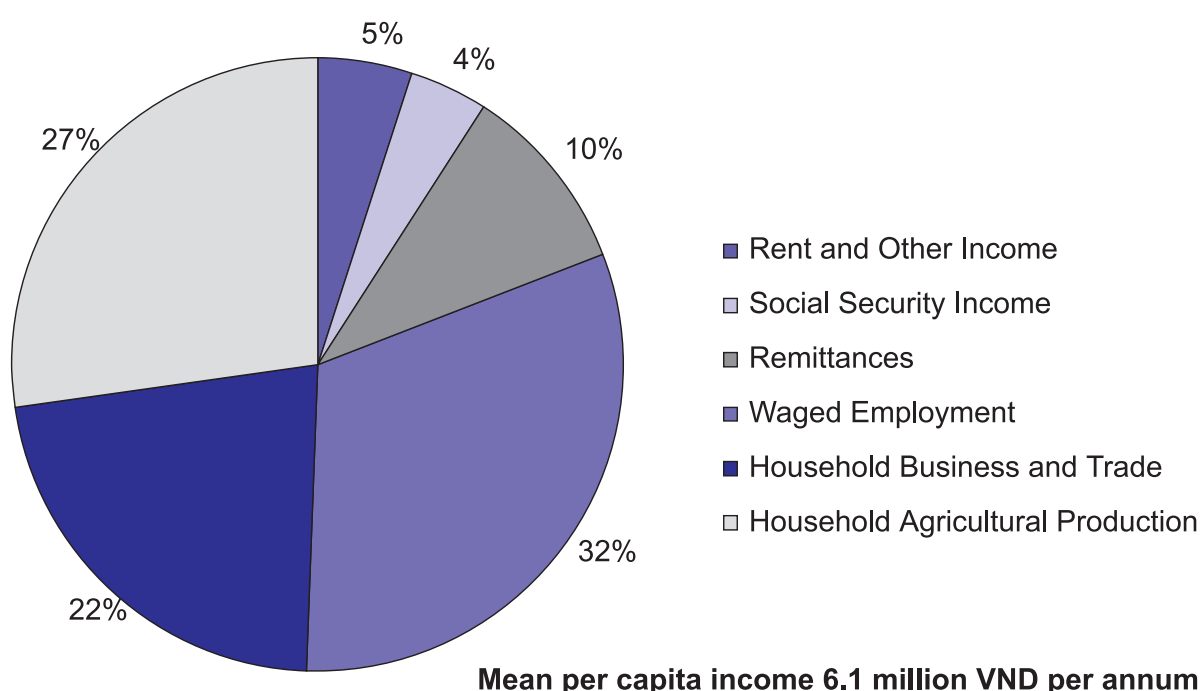
- Education assistance, scholarships
- Health Sector assistance
- Income from individual level earnings
- Net income from cultivation (after necessary expenses)
- Net income from husbandry (after necessary expenses)
- Net income from agricultural services (after necessary expenses)
- Net income from hunting, domestication of wild animals and birds (after necessary expenses)
- Net income from forestry (after necessary expenses)
- Net income from fishery (after necessary expenses)
- Net income from business and trade other than listed above
- Other income - including social welfare and social insurance pensions
- Income from rent and land

Source: GSO Household Living Standards Survey 2004, Questionnaire on Household Survey (English)

### 2.1.1 The Aggregate Picture

If we think of Vietnam as one giant collection of households and pool all their incomes into a national profile, Figure 2.1 shows how such a total household income profile is broken down into different components. On average, per-capita income is 6.1 million dong per annum. The largest aggregate component of household income in Viet Nam comes from waged employment, 32 per cent overall. Twenty seven per cent is from household agricultural production and a further 22 per cent from household business and trade. Private inter-household transfers through remittances account for a further 10 per cent. The role of "social security", even when widely defined as outlined in Chapter 1 is on aggregate small, four per cent, slightly less than income from rent and other income sources, five per cent. Private informal inter-household remittances outweigh the role of social security by a ratio of 2.25:1, confirming earlier analysis from the 1990s that they have a far larger overall effect on income than state transfers (Cox 2004).

**Figure 2.1: Aggregate Private Household Income in Viet Nam 2004**



Source: Authors' calculations from VHLSS 2004 using GSO income definitions

On average, Vietnamese households received 264,000 VND in social security in 2004. VHLSS also allows us to see how social security is made up from its different elements and Table 2.1 shows around two thirds (62 per cent) of all social security received by households is in the form of long-term social insurance benefits (mainly pensions and survivors benefits). A further fifth (23 per cent) of spending is to pay for health care, through targeted assistance with treatment and drug costs. Nine per cent of social security outputs are on social welfare payments which go to war pensioners, invalids and survivors. Five per cent of spending is on school education assistance and less than two-per cent is in the form of short-term benefits for sickness and maternity for waged people with social insurance coverage.

**Table 2.1 : Social Security Income in Viet Nam 2004**

|                                                            |      |
|------------------------------------------------------------|------|
| Average per capita social security (million VND per annum) | 0.26 |
| <b>Composition of Receipt (%)</b>                          |      |
| Education assistance                                       | 4.8  |
| Health assistance                                          | 22.6 |
| Social Insurance - In work                                 | 1.6  |
| Social Welfare Payments                                    | 9.2  |
| Social Insurance - pensions                                | 61.8 |
| Total                                                      | 100  |

Source: Authors' calculations from VHLSS 2004

This national picture, and average levels of receipt, conceals very large differences by region, urban and ethnic group in Viet Nam.

### **2.1.2 Regional Differences in Incomes**

Economic development is not equally spread across Viet Nam, producing variations in both the opportunities for waged employment, business and trade and in resulting incomes and poverty levels (Baulch et. al 2004). Table 2.2 shows considerable differences in nominal average household income. The poorest region on average, with only 3.2 million VND per annum is the North West Mountain region while the richest region, with at three times this level, 10.2 million VND, is the South East. The Mekong Delta, Red River Delta South Central Coast regions all have close to average income, while the North Eastern and North Western Mountain Regions, The North Central Coast and Central Highlands all have much lower than average income. These differences also reflect different composition of household income. The richest regions, the South East and Red River Delta have the highest proportion of household income from waged employment (35 and 39 per cent) largely reflecting the urban centres of Ho Chi Minh City and Ha Noi. Remittances are around 10 to 11 per cent of incomes in the five non-mountainous regions but much lower in the mountainous regions, possibly because of different ethno-cultural assumptions about remittances in the ethnic minority populations, differences in migration and lower income levels. Social Security Income is highest (both in relative and thus in nominal terms) in the Northern regions North Central Coast, Red River Delta and North Eastern Mountains and lowest in the southern regions of the South East and Mekong Delta and Central Highlands. This means that there is no obvious and direct link to either income level or income composition - some of the richest regions in the south, with high levels of current earnings from waged employment, have the lowest receipt of social security. Similarly, there is no clear inverse relationship with income by region as social security spending is low in the poor NW Mountains region.

Figure 2.2 shows the differences in composition of social security income by region, and shows that those Northern regions with larger than average incomes from social security gain this mostly from retirement pensions - between 68 to 76 per cent of all social security income. This explains why current levels of waged employment may not directly predict high levels of social insurance receipt as pensions are paid to a previous generation of employees. These Northern regions may have higher proportions of older entitled pensioners in the population both for demographic reasons but also because pre-war employment in the North may give rise to greater current entitlement because of recognition of pre-war contributions. This is an area of research that can be pursued further and will be covered in the accompanying paper on pension receipt. Southern regions currently receive less social security in both absolute and relative terms and receive a larger share through targeted programmes, especially health and education subsidies.

**Table 2.2 : Regional Profile of Private Household Incomes and Income Shares**

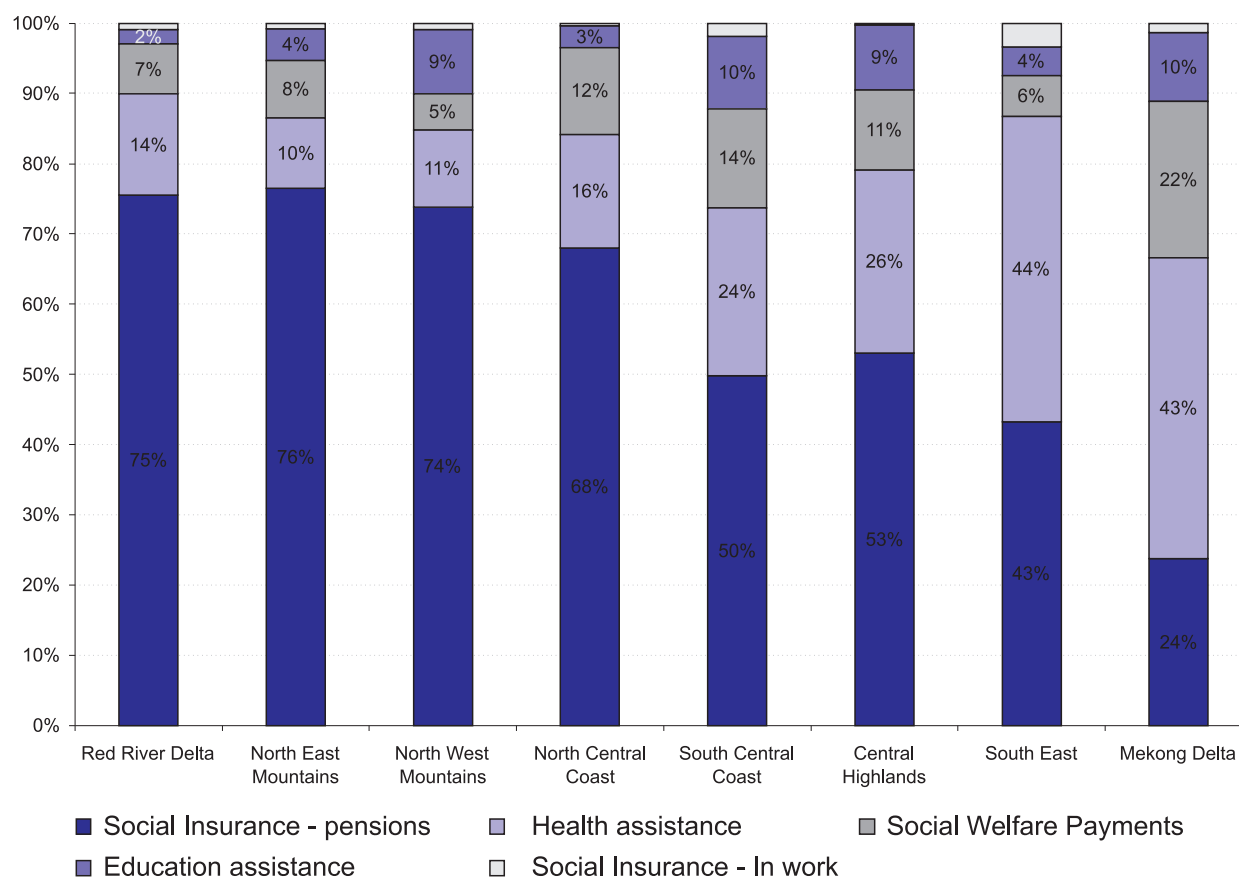
|                                                                                       | Red<br>River<br>Delta | North<br>Eastern<br>Mountain | North<br>Western<br>Mountain | North<br>central<br>coast | South<br>central<br>coast | Central<br>Highlands | South<br>East | Mekong<br>Delta |
|---------------------------------------------------------------------------------------|-----------------------|------------------------------|------------------------------|---------------------------|---------------------------|----------------------|---------------|-----------------|
| <b>Regional Household Income Levels</b>                                               |                       |                              |                              |                           |                           |                      |               |                 |
| Average pc income<br>(millions VND per annum)                                         | 6.2                   | 4.7                          | 3.2                          | 3.9                       | 5.4                       | 4.7                  | 10.2          | 6.0             |
| Relative to Viet Nam Average %age                                                     | 102%                  | 77%                          | 52%                          | 64%                       | 89%                       | 77%                  | 167%          | 99%             |
| Average Social Security Receipt - per<br>capita per annum (millions VND per<br>annum) | 0.46                  | 0.34                         | 0.16                         | 0.30                      | 0.19                      | 0.13                 | 0.29          | 0.09            |
| <b>Composition of Household Incomes %age</b>                                          |                       |                              |                              |                           |                           |                      |               |                 |
| Rent and Other Income                                                                 | 4.2                   | 3.0                          | 5.0                          | 2.9                       | 4.2                       | 2.2                  | 8.3           | 3.8             |
| Social Security Income                                                                | 7.3                   | 7.2                          | 4.9                          | 7.8                       | 3.5                       | 2.8                  | 2.9           | 1.5             |
| Remittances                                                                           | 10.2                  | 6.6                          | 4.4                          | 11.1                      | 11.1                      | 5.1                  | 11.1          | 10.4            |
| Waged Employment                                                                      | 35.1                  | 27.1                         | 21.2                         | 25.7                      | 34.2                      | 21.7                 | 39.4          | 24.0            |
| Household Business and Trade                                                          | 20.6                  | 18.7                         | 8.0                          | 17.1                      | 25.7                      | 19.5                 | 26.3          | 22.7            |
| Household Agricultural Production                                                     | 22.7                  | 37.4                         | 56.5                         | 35.4                      | 24.4                      | 48.8                 | 12.0          | 37.6            |
| Total                                                                                 | 100                   | 100                          | 100                          | 100                       | 100                       | 100                  | 100           | 100             |

Source: Authors' calculations from VHLSS 2004

Urban households have on average double the incomes of rural households, an average of 9.6 million compared to 4.9 VND per annum as shown in Table 2.2. Self-evidently, agricultural production plays a far larger role in rural households and represents 42 per cent of income. Urban households have greater proportion of income from waged employment than rural areas - 38 per cent compared to 24 per cent of all household income. Rural households have smaller proportions of their income from household trade and business - 17 per cent compared to urban households 30 per cent. Social security is a small proportion of income in both urban and rural households, but is higher in urban areas 3.4 per cent compared to 2.5 per cent. Rents are also a larger proportion of income.

Figure 2.3 shows the differences in composition of social security income in rural and urban households. The poorer rural households have a greater proportion of a lower absolute and relative social security spend and receive a larger proportion though targeted health and education programmes, while the richer urban households gain more in both relative and absolute terms in pension income.

Figure 2.2 : Composition of Social Security Income by Region



Source: Authors' calculations from VHLSS 2004

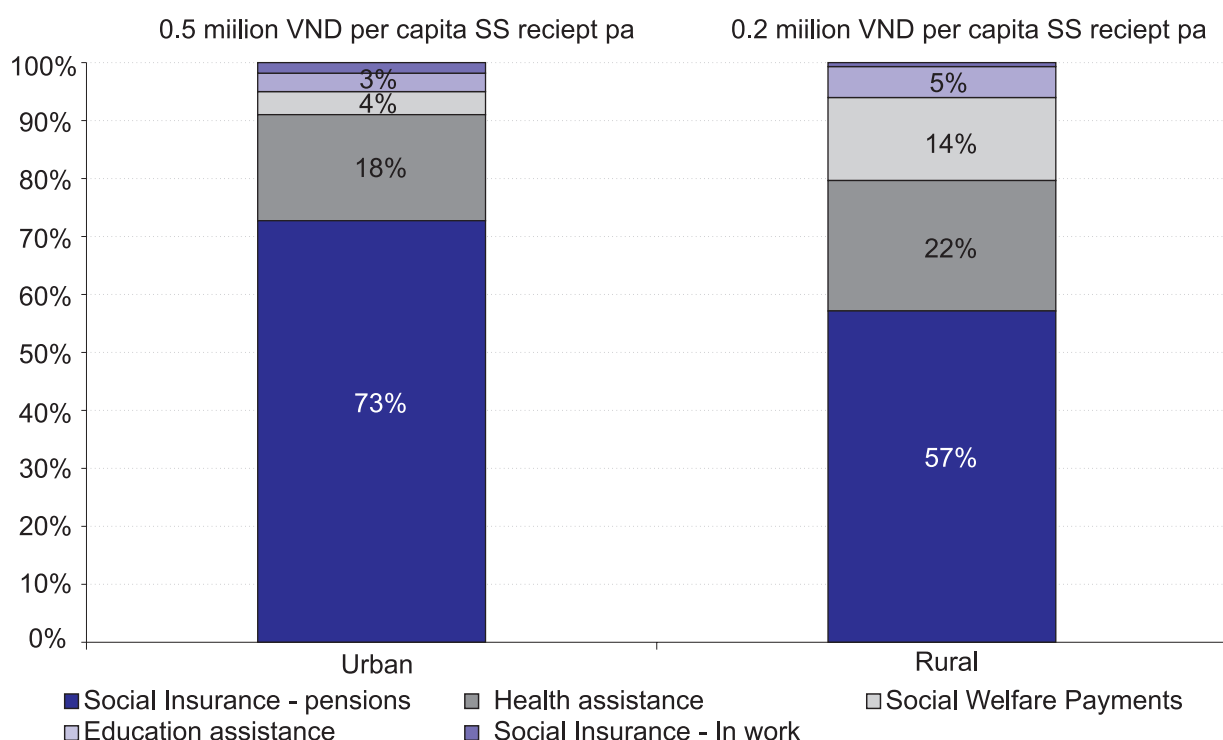
### 2.1.3 Urban - Rural Income Differences

Table 2.3 : Urban-Rural Profile of Private Household Incomes and Income Shares

|                                                        | Urban | Rural |
|--------------------------------------------------------|-------|-------|
| <b>Absolute &amp; Relative Household Income Levels</b> |       |       |
| Average annual pc income (millions VND)                | 10.2  | 4.7   |
| Relative to Viet Nam average %                         | 166%  | 78%   |
| <b>Composition of Household Incomes %</b>              |       |       |
| Rent and Other Income                                  | 7.8   | 2.9   |
| Social Security Income                                 | 4.8   | 4.0   |
| Remittances                                            | 10.9  | 8.9   |
| Waged Employment                                       | 40.9  | 24.8  |
| Household Business and Trade                           | 29.4  | 17.1  |
| Household Agricultural Production                      | 6.2   | 42.3  |
| Total                                                  | 100   | 100   |

Source: Authors' calculations from VHLSS 2004

**Figure 2.3 : Composition of Social Security Income in Urban and Rural Areas**



Source: Authors' calculations from VHLSS 2004

### 2.1.4 Ethnic Differences in Household Income

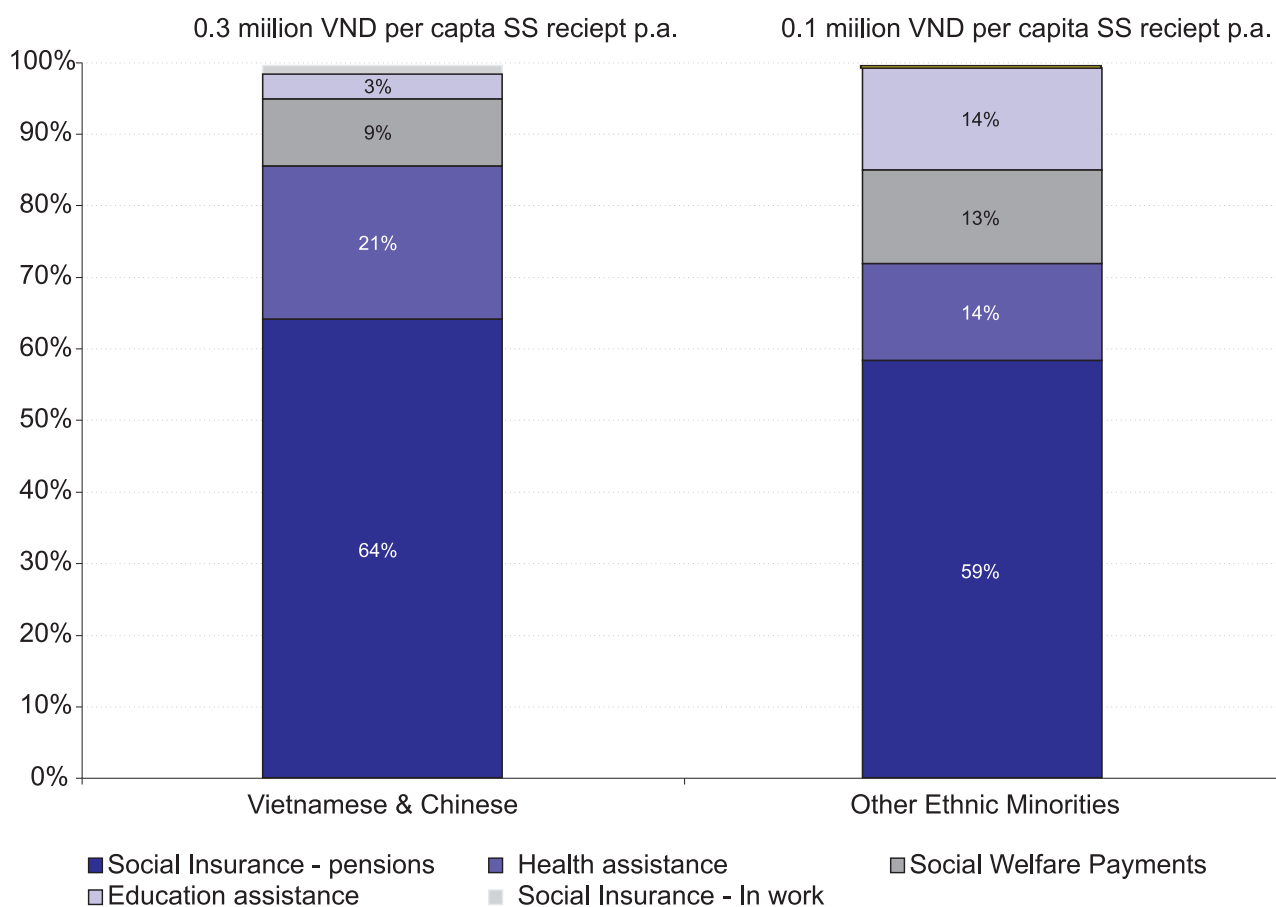
Ethnicity in Viet Nam is diverse, the majority Vietnamese (Kinh) population make up around 85 per cent of the population (Baulch et al 2004), but the remaining 15 per cent is made up of over 50 different ethnic communities who tend to be poorer and geographically concentrated in highland areas. The major exception is the Chinese of Hoa minority who are for most purposes analysed alongside the majority Vietnamese because of large areas of common characteristics beyond language.

Table 2.4 shows that ethnic minorities have on average less than half the per capita income of the Vietnamese and Chinese communities: 3.1 million VND p.a. versus 6.6 million respectively. The lower incomes of ethnic minority households have lower proportions from remittances, waged employment and household business and trade but much higher proportions from agriculture.

**Table 2.4 : Private Household Incomes and Income Shares by Ethnicity**

|                                                        | Vietnamese & Chinese<br>(85%) | Other Ethnic Minorities<br>(15%) |
|--------------------------------------------------------|-------------------------------|----------------------------------|
| <b>Absolute &amp; Relative Household Income Levels</b> |                               |                                  |
| Average annual pc income (million VND)                 | 6.6                           | 3.1                              |
| % of Viet Nam Average                                  | 110%                          | 52%                              |
| <b>Composition of Household Incomes %</b>              |                               |                                  |
| Rent and Other Income                                  | 5.2                           | 2.5                              |
| Social Security Income                                 | 4.3                           | 4.2                              |
| Remittances                                            | 10.1                          | 5.2                              |
| Waged Employment                                       | 32.5                          | 19.5                             |
| Household Business and Trade                           | 23.4                          | 7.6                              |
| Household Agricultural Production                      | 24.5                          | 60.9                             |
| Total                                                  | 100                           | 100                              |

Source: Authors' calculations from VHLSS 2004

**Figure 2.4 : Ethnic Household Differences in Composition of Social Security Income**

Source: Authors' calculations from VHLSS 2004

The proportion of incomes from social security is similar, around five percent, across the ethnicity profile, but, in nominal terms the ethnic communities receive far less on average per capita. Figure 2.4 shows that there is no great difference in levels of social insurance pension receipt, with ethnic minorities receiving 59 per cent and the Kinh and Hoa majority receiving 64 per cent. Ethnic minority groups receive lower proportions of their social security in the form of social welfare and health and education assistance. This finding does not take into account the levels of resources in health and education that are geographically targeted to ethnic minority localities and provide services and infrastructure that are not counted in the reported incomes of respondents to VHLSS.

### 2.1.5 The Income Distribution

These profiles of regional, urban and ethnic differences in the distribution of social security gives us only a two dimensional view of its progressivity. Within regions and urban and rural populations, and, less so, within ethnic minorities, there will be differences in incomes. A clearer profile of progressivity of social security is obtained by looking at the income distribution and seeing who gets how much. We do this by ranking households by their net-per capita income into five equal quintile groups. Table 2.5 shows the income composition of Vietnamese households by income quintile, once more using the GSO income definition.

## How Progressive is Social Security in Viet Nam?

**Table 2.5 : Income Quintiles and Income Composition**  
Per-capita Income (GSO definition)

|                                           | Poorest quintile | 2nd        | 3rd        | 4th        | Richest quintile |
|-------------------------------------------|------------------|------------|------------|------------|------------------|
| Average pc income (million VND per annum) | 2.0              | 3.4        | 4.9        | 7.3        | 15.8             |
| % of Viet Nam average                     | 33%              | 56%        | 81%        | 120%       | 259%             |
| <b>Composition of Income Quintiles %</b>  |                  |            |            |            |                  |
| Rent and Other Income                     | 1.9              | 2.0        | 2.7        | 3.7        | 8.0              |
| <b>Social Security Income</b>             | <b>3.4</b>       | <b>4.1</b> | <b>4.3</b> | <b>5.1</b> | <b>4.2</b>       |
| Remittances                               | 5.2              | 6.4        | 6.8        | 8.8        | 13.2             |
| Waged Employment                          | 25.8             | 29.5       | 30.0       | 32.9       | 33.1             |
| Household Business and Trade              | 8.0              | 14.4       | 19.9       | 22.9       | 27.8             |
| Household Agricultural Production         | 55.7             | 43.6       | 36.4       | 26.6       | 13.8             |
| Total                                     | 100.0            | 100.0      | 100.0      | 100.0      | 100.0            |

Source: Authors' calculations from VHLSS 2004

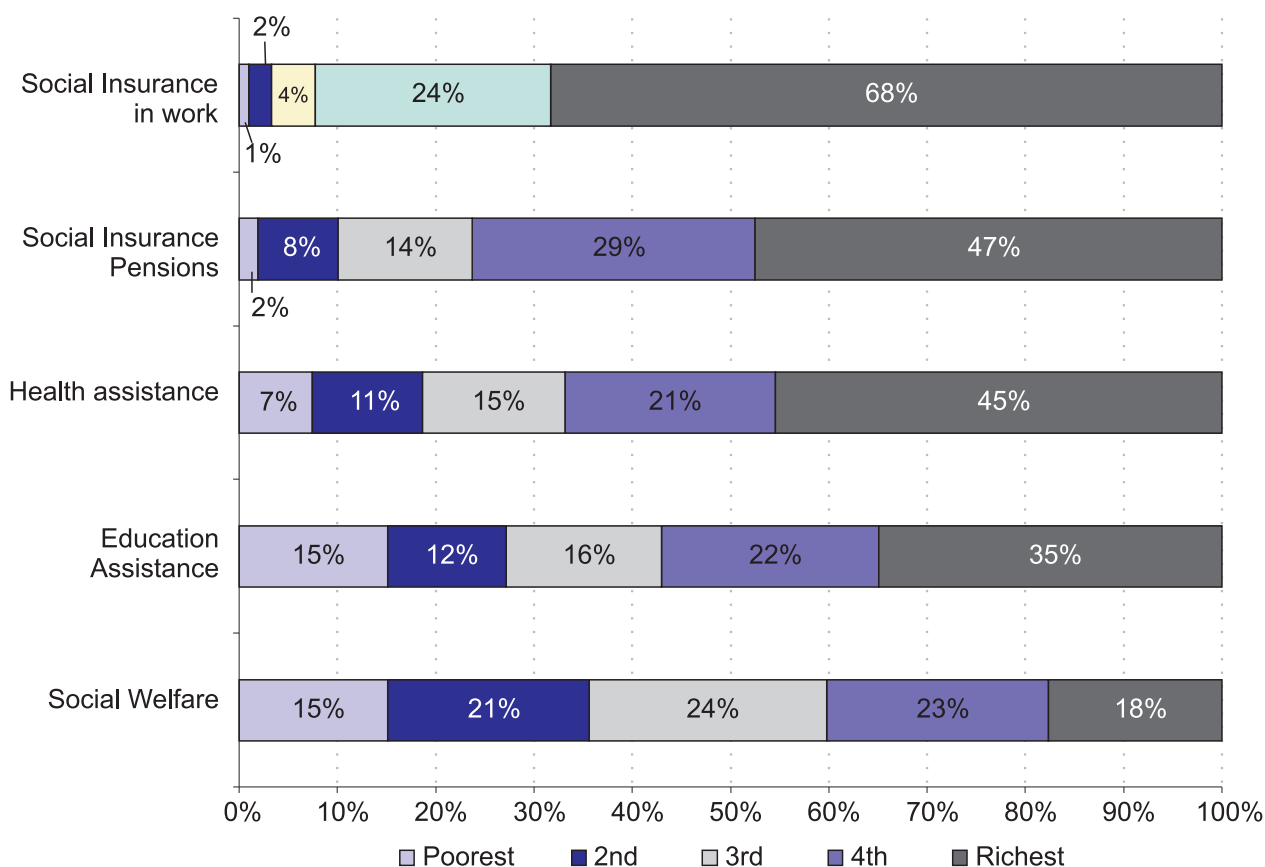
Average quintile incomes range from 2 million VND for the poorest quintile to over seven times that level, almost 16 million VND for the richest quintile. Higher income households receive greater proportions of their income from remittances, household business and trade, rent & other income and social security; and a smaller share of their income from agriculture. The relative contribution of waged employment seems less directly related. However, it is important to remember that underlying values for all income sources rise across the quintiles, so that, for instance, even the far lower relative contribution of agricultural production for the richest quintile still have a nominal per capita income of 2.2 million dong, double that of the poorest quintile. It is also important to remember this when we come to discuss the distribution of social security across the quintiles because both relative income shares and nominal incomes rise with income. This is clearly shown in Table 2.6, which shows the shares of all social security received by Vietnamese households by income quintile alongside the average per-capita spend. The poorest quintile receive around 7 per cent of all social security spending, around 70,000 VND per annum, while the richest quintile command 39 per cent of resources and receive on average 660,000 VND per annum. Social security overall appears regressive.

**Table 2.6: Social Security by Quintile 2004**

|                                                          | Poorest Quintile | 2 <sup>nd</sup> | 3 <sup>rd</sup> | 4 <sup>th</sup> | Richest Quintile |
|----------------------------------------------------------|------------------|-----------------|-----------------|-----------------|------------------|
| % of all social security spend                           | 6.6%             | 11.2%           | 16.1%           | 27.0%           | 39.1%            |
| average ss per capita<br>(million VND per cap per annum) | 0.07             | 0.14            | 0.21            | 0.37            | 0.66             |

Source: Authors' calculations from VHLSS 2004

Figure 2.5 : Quintile Shares of Social Security Programmes 2004



Source: Authors' calculations from VHLSS 2004

Figure 2.5 shows the quintile shares of the five different elements of social security. The most regressive programme is in-work social insurance, sickness and maternity provision in the main, which from discussions in Chapter 1, was seen to be the fastest rising area of social insurance spending although it remains a small proportion of overall spending. Ninety two percent of this spending goes on the top two quintiles, with over two thirds going to the richest quintile. This is not surprising because provision is both linked to formal employed status, itself an indication of potentially higher income and is income-related, so that the higher paid receive higher benefits. Pensions and other long-term social insurance benefits are also regressive, with almost half of all spending going to the richest quintile and only two percent of spending going to the poorest. Pensions are based on a percentage of past earnings and will thus provide higher benefits to higher earners; however, Vietnamese pensions are not protected against inflation and thus will fall relative to other incomes over time which means that older pensioners will have lower incomes. Overall regressivity is also affected by the additional income sources that accompany pensions in household income - either from continued economic activity of pensioners themselves and/or of other household members, and from the additional impact of remittances, which are often from younger to older generations. The overall profile of pensions and their relationship to economic activity and household income is discussed further in the accompanying UNDP working paper on Vietnamese pensions.

The more targeted programmes of education and health assistance should be progressive if targeting is effective, but Figure 2.5 shows that this is debateable. Two-thirds of health assistance goes to the top two quintiles with the richest quintile receiving 45 per cent of all assistance and the poorest quintile only receiving seven per cent. It is not immediately clear how richer households can have "captured" a targeted programme. From the description in Chapter 1 we know that lower income households tend to avoid formal take-up of health services, and thus assistance, and there is a potential for higher income groups to take up higher cost medical interventions. However this cannot be adequately examined in this paper. We do however, change income definitions in the following part of this chapter to take into account user charges and look at patterns of progressivity that result from these changed assumptions.

Education assistance is regressive with 57 per cent of spending going to the top two quintiles, but with 15 per cent going to the poorest quintile. Compulsory primary education will mean that poor households will receive assistance if they have primary school aged children and this may mean that up-take of assistance in entitled households is better than that for health. Again, our analysis of income progressivity using different definitions of income below, which includes both assistance and user charges, will also give a clearer indication of overall interactions between assistance and user-charges across the income distribution.

Lastly, social welfare assistance, the combination of means-tested and categorical schemes for war disabled and survivors, is the least regressive component of all social security spending, although it is still not progressive as lower income quintiles do not command higher shares of the budget than their population share (20 per cent). The poorest quintile receives only 15 per cent, the middle quintiles receive slightly more than their population shares, 21 to 24 per cent, while the richest quintile receives 18 per cent.

These analyses show some reasons for concern if the Government of Viet Nam is seriously committed to social policy to promote equality. However, it is not certain that the true extent of progressivity is captured using the GSO income measure. Is the system actually more progressive than these profiles suggest because for instance, the richer quintiles pay more in contributions or user charges for education and health? We now turn to this and related questions.

## **2.2 Estimating Progressivity on Gross and Disposable Net Income Distributions**

### **2.2.1 Incomes and Measurement of Progressivity**

A more complete analysis of the progressive impact of social security on incomes requires an approach that moves beyond the observed incidence of receipt of social security shown in Section 2.1. What we have shown so far are the incomes of households after social security has been paid. What is needed for a more analytical approach is to look at the effect of social security on original incomes and thus to see what the impact of social security is on the income distribution. For instance, if we look back at Table 2.5 and remove social security receipt, the composition of the quintiles would not be the same as some people would move up and down across quintile groups.

To accurately estimate the effect of social security and to assess its progressive impact there needs to be a "counterfactual" - the position where no taxes and transfers have taken place. This presents a large analytical problem because it is reasonable to assume that the receipt of social security alters behaviour (or promised receipt, in the case of future pension entitlement on current behaviour). Indeed, it is the express aim of social security to change behaviour in many cases; for instance, education assistance is given, in part, to ensure that children attend school by offsetting some of the direct and indirect (opportunity) costs of such attendance. But, as we discuss further in part 4, establishing a counterfactual to control for or capture behavioural responses is extremely difficult and subject to a high likelihood of error, because there is a potential range of behaviours that overlap, and which may or may not be individually or collectively specified and replicated. Such theoretical uncertainties are further compounded further by data limitations. VHLSS survey data does not have separate individual and household level incomes for most social security incomes and thus even if we could theoretically specify individual and household behavioural changes we could not capture or measure them empirically. But behavioural effects are not just economic; they may be demographic; for instance, by encouraging household members to live together and vice-versa. Again, we cannot specify these from VHLSS data.

We discuss these problems further in Part 4 below where we profile and estimate some behavioural effects of social security. In the meantime, we continue to use an essentially descriptive approach, but change from the observed income distribution defined by GSO to a series of income definitions which we use to compare pre- and post social security effects on the distribution of incomes.

What income definition most accurately enables us to both rank households and measure the incidence and impact of social security?" While we have put to one side capturing the behavioural changes caused by social security it is still wise to keep in mind the underlying influence that formal and informal transfers may have on behaviour. Some of these influences are not from receiving transfers but from liabilities to tax and

contributions and from obligations to give remittance assistance to family and community members. This mixture of formal and informal influences is also an important reminder that formal state interventions are also accompanied by informal behaviour - petty corruption and rent seeking in the main - that accompanies the provision of the social security services (see our previous discussion in Chapter 1). This means that to capture the overall progressive impact of social security, and the effects of inputs from taxes, contributions and charges, as well as potentially behavioural changes by households to informal remittances, charges and corruption. Put simply, we have to come up with a range of income definitions that describe what happens before and after social security and analogous informal and formal liabilities.

### 2.2.2 Income Definitions

This leads us, in the first instance, to construct seven different income definitions that move from "original" income and allow for a variety of transfers and taxation and charges to produce a range of measures that approximate to "net disposable income" after social security. It is best to think of these in two groups: first, gross incomes, (i.e. before deductions for contributions, taxes and remittance payments) and secondly, net incomes, which allow for different assumptions of liabilities for taxes, charges and remittance payments.

#### *Gross Incomes*

First, we need to estimate income before any taxes or transfers. To do so we assume that it is not just the formal state run social security system that matters but also the effects of private remittances. This leads us to define Original Market Income (OMI), which measures income prior to any private or state intervention (ignoring behavioural effects). To obtain this figure we deduct remittances income from GSO income definitions and add imputed contributions to social security (we impute social security contributions by assuming they are equal to five percent of "hard" earnings i.e. regular earnings, excluding bonuses and other element of earnings). We do not attempt to simulate income tax as any simulation could not accurately estimate actual tax-take, due to implementation and evasion, and would produce errors that were less directly attributable to "social security".

Our second income definition, Original Market and Remittance Income (OMRI) adds back in remittances to OMI to provide an income definition which includes all non state sources of income.

Our third income definition is an estimate of final gross income after remittances and social security transfers (OMRI plus social security payments) and this we call GFI - gross final income.

#### *Net Incomes*

The first net income definition simply deducts direct taxation and social security contributions (which are imputed). This definition is closest to the GSO definition. We call this Net Income after Taxes and Transfers (NITT).

However, if we are to rank households according to their use and uptake of social security we should not add in assistance with health and education charges without also deducting those charges that are unavoidable, and thus most like a tax. This means deducting charges for primary schooling (we also deduct charges for lower secondary schooling as it is an aim of the Vietnamese Government to move to compulsory enrolment) and for health usage that is observed to be unavoidable - hospital in-patient charges and similar costs of up-take. We call this income definition Net Income after Taxes, Transfers and Compulsory Charges (NITTCC).

We know from Chapter 1 that the issue of "voluntary" contributions and spending on health and education charges is misleading, especially for low income households. Some voluntary contributions for school children are very close to compulsory and poorer households use alternative sources to avoid user charges in health (Trivedi 2004). Our third net income definition thus further deducts all spending on health and education from NITTCC and is called Net Income after Taxes, Transfers and Health and Education Expenditure (NITTHEE). However, we recognise that our wish to capture the net impact of social security and charges on constrained households means that we are also capturing non-constrained spending by richer households. Put simply, we capture the private spending on essential things by poorer households, private prescriptions for instance, but also capture non-essential spending by rich households; cosmetic surgery, for instance.

Our final measure of net income further excludes private inter-household remittance spending. We deduct expenditure on remittances from NITTHEE to give a final cumulative net disposable income definition. Reducing remittance spending allows for a net estimate of the effects of formal transfers, which cannot be assumed to purely be income. Indeed, having included it as income in gross income definitions we would be possibly "double counting" income if we did not reduce net disposable incomes by the outlays on remittances. It is arguable that we could take remittance spending at an earlier point in the cumulative approach to liabilities in our net income definitions of income. We come to it last because, as in the treatment of spending on health and education in NITHEE, we do not know how far such spending is characterised by strong obligations across the income distribution and thus whether payments are a form of informal inter-household family income pooling for the poorest or how far they represent generosity and largesse and the wish to preserve status and prestige for richer households. We call this income Net Income after Taxes, Transfers, Health and Education Expenditure and Remittances (NITTHEER).

These seven definitions are logically presented in this sequential order to run from the starting point of a first order gross income definition to a range of second and third order definitions of net disposable income. However, it must be remembered that this approach is presentational and descriptive and is not attempting to capture behavioural effects. It may well be that social security transfers affect private remittances, for instance, and thus that seeing remittance income as "prior" is in fact mistaken.

### 2.2.3 *Headline Measures of Income Inequality*

The Government of Viet Nam has an explicit policy commitment to equality and our seven income measures can each be used to show levels of inequality and where changes in income definition make an impact on inequality - in the bottom or top of the income distribution. Measuring inequality is a complex task and there is no single measure of inequality that adequately summarises the overall level of inequality: different measures give varying weights to those at the top, middle or bottom of the income distribution Cowell (2006). Given our need to test five different income assumptions with and without equivalence assumptions, we keep to two simple aggregate measures - the Gini coefficient, and the ratio incomes of those at the 90th and 10th percentile points. To show how different income definitions affect different parts of the income distribution we additionally look at the ratios of the 90th to the 10th percentile point, the 90th to the 50th percentile, and the 10th to the 50th.

Table 2.7 shows summary inequality measures for each of the seven definitions and these have been used sequentially and should be read from left to right for ease of comparison. Gross original market income (OMI) prior to any state or private transfers and liabilities gives a Gini coefficient measure of income inequality of 0.409, while the ratio of income for those at the 90th percentile of the distribution is 6.3 times greater than the income for those at the 10th percentile. Remittance incomes (GMRI) are similarly distributed, with the Gini coefficient falling very slightly to 0.408 and the 90/10 ratio remaining unchanged. Adding social security incomes (GIRSS) has a bigger impact on reducing inequality; the Gini coefficient falls to 0.401 and the 90/10 ratio drops to 6.2. Moving to the first net income definition (taking out taxes and contributions to create NITT) leads to further small reductions in inequality, the Gini coefficient remains at 0.401 and the 90/10 ratio falls to 5.8. However, the result of deducting user charges and remittance payments progressively increases inequality from this point. The netting off of compulsory charges (NITTCC) increases inequality to levels higher than originally observed in original market income (OMI). The Gini coefficient rises to 0.411 and the 90/10 ratio rises to 6.4. Further deduction of voluntary charges and spending (NITHEE) sees the Gini rise to 0.414 and the 90th percentile rises to 6.5 times the 10th percentile. Finally, if the net effect of remittances is allowed for (NITTHEER) inequality rises further with a Gini coefficient of 0.416 and the 90/10 ratio of 6.5.

These summary measures of inequality have their limitations in interpretation as they both under-report what is happening at the high and low "tails" of the distribution. Moreover, when looking at the income distribution in terms of progressive impacts, it is not possible to tell from these summary measures where in the distribution the changes of income definition are having most effect. Does inequality rise because the rich or the poor are pulling away from the middle? The two bottom rows of Table 2.7 profile inequality in the top and bottom of the income distribution respectively. They first show the relationship between the median (50th percentile) and the top 10th as a measure of the top half of the income distribution and then show the relationship between the bottom 10th percentile and the median (50th) to profile the poorest part of the income distribution.

**Table 2.7 : Income Inequality and Progressivity of Social Security in Viet Nam**  
Per-capita Incomes (non-equivalised)

|                                                                      | Gross Income           |                      |                                                           | Net Income                         |                                                          |                                                                        |                                                                                     |
|----------------------------------------------------------------------|------------------------|----------------------|-----------------------------------------------------------|------------------------------------|----------------------------------------------------------|------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                                                                      | Original Market Income | OMI with Remittances | Gross Final Income - with Remittances and Social Security | Net Income after Taxes & Transfers | Net Income after Taxes, Transfers and Compulsory Charges | Net Income after Taxes, Transfers and Health and Education Expenditure | Net Income after Taxes, Transfers, Health and Education Expenditure and Remittances |
|                                                                      | OMI                    | OMRI                 | GFI                                                       | NITT                               | NITTCC                                                   | NITTHEE                                                                | NITTHEER                                                                            |
| <b>Overall Inequality</b>                                            |                        |                      |                                                           |                                    |                                                          |                                                                        |                                                                                     |
| Gini Coefficient                                                     | 0.409                  | 0.408                | 0.401                                                     | 0.401                              | 0.411                                                    | 0.414                                                                  | 0.416                                                                               |
| 90 <sup>th</sup> /10 <sup>th</sup> percentile ratio                  | 6.345                  | 6.288                | 6.172                                                     | 6.102                              | 6.406                                                    | 6.502                                                                  | 6.526                                                                               |
| <b>Top of Distribution</b>                                           |                        |                      |                                                           |                                    |                                                          |                                                                        |                                                                                     |
| 90 <sup>th</sup> /50 <sup>th</sup> percentile ratio                  | 2.657                  | 2.697                | 2.687                                                     | 2.665                              | 2.705                                                    | 2.744                                                                  | 2.765                                                                               |
| <b>Bottom of Distribution</b>                                        |                        |                      |                                                           |                                    |                                                          |                                                                        |                                                                                     |
| 10 <sup>th</sup> /50 <sup>th</sup> percentile ratio (as inverse 1/n) | 2.387                  | 2.331                | 2.299                                                     | 2.288                              | 2.370                                                    | 2.370                                                                  | 2.358                                                                               |

Source: Authors' calculations from VHLSS 2004

Note: Ginis calculated on un-weighted data while percentile ratios calculated on weighted distribution

When we look at the top of the distributions (the ratio of 90th to 50th percentile) we can see that it confirms the picture gained from the summary inequality measures; that is, reading from left to right, of reducing distance between the top and middle of the distribution up to the point of netting off direct taxes and social security contributions. However, the top of the income distribution pulls away from the median further with each cumulative iteration of net income - the richest are getting relatively richer when payments of user charges, expenditure on health and education and remittance payments are taken into account. Turning to the bottom of the income distribution the gap between the poorest and the median falls consistently across the profile of gross and net incomes with the addition of social security and with the deduction of taxes. The gap between the bottom 10th percentile and the median is almost 2.4 with original market income (OMI) and this reduces to around 2.3 once social security payments and contributions and taxes are taken into account. However, the gap begins to grow again once user charges are taken into account and the poor once again become poorer with gaps of 2.37. The gap narrows to 2.36 once remittance payments are deducted from incomes.

These findings suggest that inequality falls when social security is taken into account and is progressive when compared to the original income distribution before social security. However, the results also show that the gains to income equality and overall progressivity of taxes and transfers are lost if user charges are taken into account, with both the poorest and richest losing out to the middle of the distribution.

#### 2.2.4 Social Security's Impact on Ranking and Incomes

While our profiling of income definitions and inequality has strongly suggested that net impacts are both very different from and more worrying for inequality than the gross receipts of state transfers implies. At this point we leave the issue of private inter-household transfers for further research, having both substantiated the "pro-poor" finding of such transfers by Cox (2004) but also raised questions about their overall net impact once payments out are considered alongside receipt. We concentrate instead on the effects of formal state social security. To do so we can cut down on the number of income definitions we use to analyse

redistribution. Maintaining our approach of "original" income before state transfers we assume that the starting point for comparison of the effects of social security is the definition of gross income that includes both market and informal transfers (OMRI). This, of course, once again ignores the potential causal relationship of, and behavioural effects between, private and state transfers. However it gives us a simple starting point for comparison of incomes before and after state transfers, taxes and charges. Such a simplification is necessary because interpretation of the changing fiscal components of incomes leads us to create a different income distribution for each income definition. Put simply, those who were in the bottom quintile in Table 2.6 for GSO definition of incomes after social security are there in part because they receive little or no social security, and vice versa. This is because individuals can change their position and ranking in the income distribution at the same time as their nominal income changes with each change of income definition as we alter their fiscal profile of transfers, taxes and charges.

The clearest comparison of the effects of these different iterations of fiscal intervention is one based on comparing "original" income including remittances, with the four income outcomes that relate to state social security and social protection:

- first, the effect of transfers alone (GFI);
- second, the combined effect of transfers and taxation (social security contributions and local charges) by using net income after tax and transfers (NITT);
- third, the effect of transfers, taxation and compulsory user charges, NITTCC;
- fourth, the effect of transfers, taxation, compulsory user charges and other spending on health and education (NITTHEE).

Table 2.8 shows a breakdown of transfers, taxation, user charges and health and education spending by quintiles of original income before transfers and taxes (OMRI). Reading the table from left to right, the table gives our original income starting point and then each cumulative addition and subtraction from this income that occurs to obtain the four comparison incomes.

The first thing to note is that social security transfers are far more evenly spread across original income deciles than in the profile of GSO income in Table 2.6. While our first profile suggested that social security was extremely regressive (with the richest quintile receiving 10 times the amounts of the poorest), Table 2.8 suggests that nominal social security is spread across the original income distribution in a less regressive fashion, with the poorest quintiles getting 0.3 million vnd per annum and the richest 0.4 million, with less going in nominal terms to the 2nd and 3rd quintiles. This explains why Table 2.8 showed final gross income (after social security but before tax) was less unequal. The effect of taxes and social security contributions is also mildly progressive in nominal terms - with the poorest quintile paying little (zero due to rounding) and the richest paying more. Compulsory education charges are flat across the original income distribution and while payments of "compulsory" health charges from up-take of health care services rise as income rises. Finally, voluntary expenditure on health and education also rises as incomes rise across the quintiles.

**Table 2.8 : Pre-Transfer Income and Nominal Effects of Social Security, Taxation and User Charges:**  
by Gros Income pre Social Security Quintiles and millions of VND per annum

| Gross Income before Social Security (million VND) |      | Social Security (added) | Final Gross Income with Social Security | Direct Tax and Contributions (subtracted) | Net Income After Direct Tax and SS contributions | Compulsory Education Charges (subtracted) | Compulsory Health Charges (subtracted) | Net Income after compulsory charges | 'Voluntary' Education Spending (subtracted) | Voluntary Health Spending (subtracted) | Net Income After compulsory and voluntary spending |
|---------------------------------------------------|------|-------------------------|-----------------------------------------|-------------------------------------------|--------------------------------------------------|-------------------------------------------|----------------------------------------|-------------------------------------|---------------------------------------------|----------------------------------------|----------------------------------------------------|
| Quintiles OMRI                                    |      |                         | GFI                                     |                                           | NITT                                             |                                           |                                        | NITTCC                              |                                             |                                        | NITTHEE                                            |
| Poorest                                           | 1.9  | 0.3                     | 2.1                                     | 0.0                                       | 2.1                                              | 0.1                                       | 0.1                                    | 1.9                                 | 0.1                                         | 0.2                                    | 1.8                                                |
| 2nd                                               | 3.2  | 0.2                     | 3.4                                     | 0.1                                       | 3.3                                              | 0.1                                       | 0.2                                    | 3.1                                 | 0.2                                         | 0.2                                    | 3.0                                                |
| 3rd                                               | 4.6  | 0.2                     | 4.9                                     | 0.1                                       | 4.8                                              | 0.1                                       | 0.2                                    | 4.5                                 | 0.2                                         | 0.2                                    | 4.3                                                |
| 4th                                               | 6.9  | 0.3                     | 7.2                                     | 0.2                                       | 7.1                                              | 0.1                                       | 0.3                                    | 6.7                                 | 0.3                                         | 0.3                                    | 6.4                                                |
| Richest                                           | 15.4 | 0.4                     | 15.8                                    | 0.3                                       | 15.4                                             | 0.1                                       | 0.4                                    | 14.9                                | 0.6                                         | 0.5                                    | 14.3                                               |

Source: Authors' calculations from VHLSS 2004

Notes: all rounded to nearest 0.1 million VND

This profile of nominal fiscal and household spending patterns however is better thought of in it's cumulative and proportional effect on incomes across the income distribution. Table 2.9 therefore shows the difference to original income (OMRI) that each net income definition makes. This more clearly shows that it is the effect of taxes and transfers that have the most progressive impact on original incomes. The poorest quintiles have a 12 per cent increase in income while the richest only have a 0.6 per cent decrease. However, the effect of user charges and spending on health and education largely nullify this initial progressive effect. "Compulsory" charges keep a positive overall impact on the poorest quintile but incomes are now only 2.7 per cent higher on average. The proportional effect on the remainder of the distribution is non-linear with highest proportional negative net impacts in the 4th quintile. On the final definition of net income (further deducting health and education expenditure) then the poorest quintile lose 2.4 per cent of their original income and the richest 6.8 per cent - with higher negative proportional decreases in the middle of the distribution. This obviously reflects an inconsistent pattern that conflates constrained but necessary spending for the poorest with greater choice and non-essential spending for the richer quartiles. However, it clearly suggests that the gains from social security for the poorest are off-set by a combination of user charges and spending on health and education services.

**Table 2.9: Net Effect of Taxes, Transfers and Charges on Gross Income**

| <b>Gross Income before Social Security</b> | <b>Net Effect of Transfers and Taxes</b> | <b>Net Effect of Taxes, Transfers and 'Compulsory' Charges</b> | <b>Net Effect of Taxes, Transfers, 'Compulsory' Charges and 'Voluntary' Spending</b> |
|--------------------------------------------|------------------------------------------|----------------------------------------------------------------|--------------------------------------------------------------------------------------|
| <b>OMRI</b>                                | <b>(NITT-OMRI)</b>                       | <b>(NITTCC-OMRI)</b>                                           | <b>(NITHEE-OMRI)</b>                                                                 |
|                                            | VND %                                    | VND %                                                          | VND %                                                                                |
| Poorest                                    | 1.86 0.22 12.0%                          | 0.05 2.7%                                                      | -0.04 -2.4%                                                                          |
| 2nd                                        | 3.19 0.13 4.0%                           | -0.09 -2.7%                                                    | -0.24 -7.5%                                                                          |
| 3rd                                        | 4.63 0.14 3.0%                           | -0.12 -2.6%                                                    | -0.34 -7.3%                                                                          |
| 4th                                        | 6.95 0.12 1.8%                           | -0.21 -3.1%                                                    | -0.52 -7.6%                                                                          |
| Richest                                    | 15.35 0.09 0.6%                          | -0.46 -3.0%                                                    | -1.04 -6.8%                                                                          |

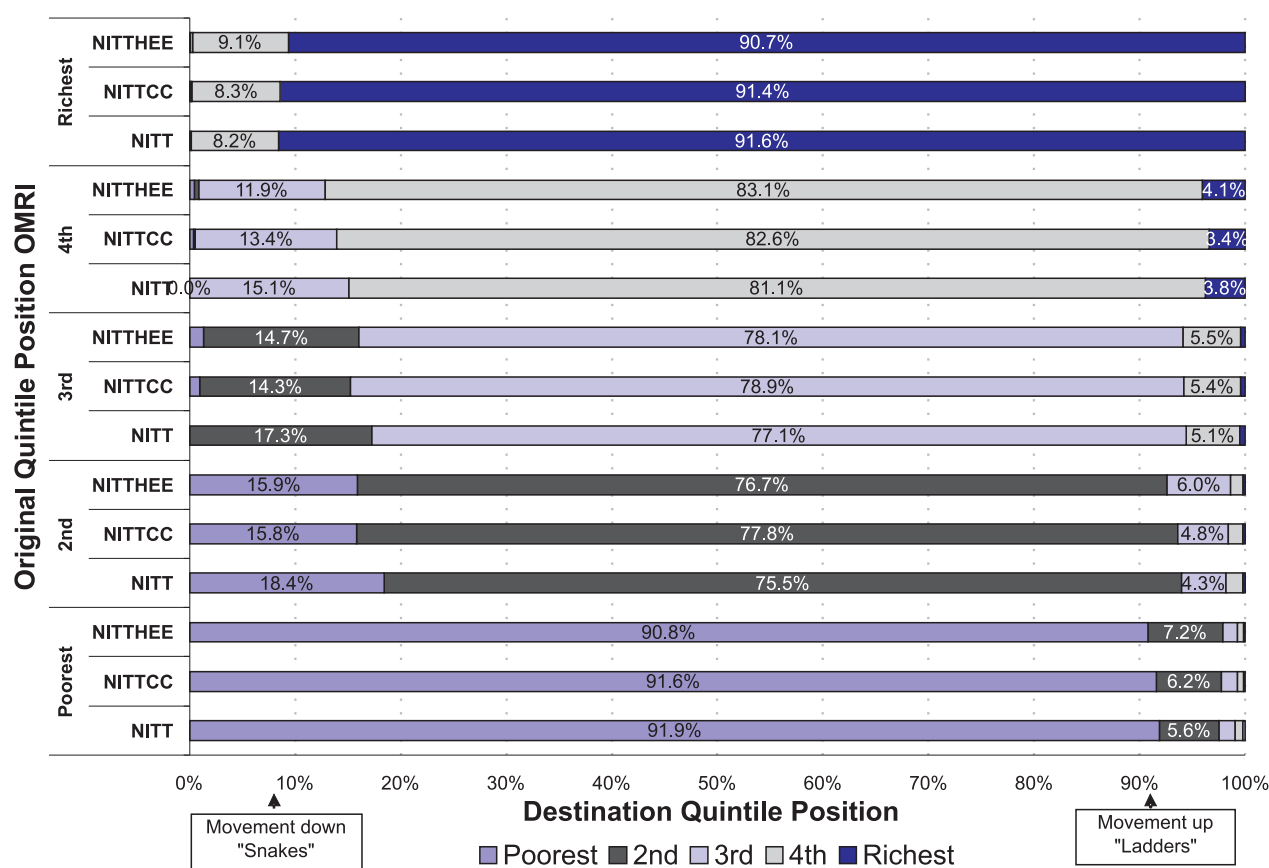
Source: Authors' calculations from VHLSS 2004

Notes: all rounded to nearest 0.1 million VND

## How Progressive is Social Security in Viet Nam?

As previously mentioned, one outcome of these changes in fiscal and user charge profiles is to change the composition of the quintiles, so that, for instance, some of those who start out in the poorest quintile of original income move to a higher quintile if their income is considered net of social security, taxes and charges. The results so far have reported averages and these hide differences in intra-quintile levels of receipt, which when combined with differences in intra-quintile incomes, mean that there is considerable moving across quintile boundaries - largely depending on the proximity of income to the quintile point cut off point and the size of the difference that the fiscal changes make. (People with incomes nearer to the cut-offs are more likely to change quintile as do those that have large increases or decreases in income.)

**Figure 2.6 : Distributional Impact of Social Security:**  
Original Quintile Position and Destination Quintile Position by Net Income Definition



Source: Authors' calculations from VHLSS 2004

Figure 2.6 shows the original quintiles of pre-transfer and tax income (OMRI) and the destination quintiles for each of the three major net income differences: Incomes after tax and transfers (NITT); income after tax, transfers and compulsory user charges (NITTCC) and income after tax, transfers, "compulsory" charges and "voluntary" expenditures on health and education. The horizontal bars in Figure 2.6 show the percentage in each destination quintile for each of these income definitions, which themselves are shown on the left hand side by quintiles of OMRI - original income. The order of the segments of each bar allow the downward movement across quintiles, so called "snakes" using the snakes and ladders analogy, to be shown on the left hand side, while the up-ward movements across quintiles, "ladders" in the same analogy, are shown on the right-hand side. Between 91 and 92 per cent of the bottom quintile of original income remain in the bottom quintile of all three subsequent destination quintiles - however between 6 and 7 per cent move up to the second quintile. Far smaller proportions move further up the distribution. The second quintile of original income loses around 16 per cent to the bottom quintile and between 4 and 5 per cent to the 3rd quintile. There are similar proportions moving up and down in the third quintile of original income. Between 12 and 15 per cent of the fourth quartile of original income move down to the 3rd quintiles of destination incomes and between 3 and 4 per cent move up to the richest quintile. Over 90 per cent of the richest original income

quintile remains unaffected - it is worth remembering that getting richer will not change their quintile position if they receive social security - while between 8 and 9 per cent move down into the fourth quintile. It is also worth remembering that it is only social security, tax and charges that are changing and we have seen what small proportions of income these represent overall. Indeed, as we have previously pointed out, it is likely that the outliers, the large receipts of social security or the high charges or spending on health and education that make up the movement across quintiles.

## 2.3 Modelling Progressivity of Social Security

So far we have shown characteristics of social security receipt using the GSO income definitions most commonly used in Viet Nam and then used other income definitions to profile different forms of progressive and regressive impacts on disposable incomes. This final section in Chapter 2 draws these two previous analyses together by looking again at characteristics that are associated with social security receipt and the associated liability for user charges and health. What determines who gains or loses from fiscal intervention and service uptake? Regression analysis is used to place income alongside other characteristics to assess how far social security inputs and outcomes are progressive. Once again, we remind readers that these estimations are primarily descriptive; we do not attempt here to model a behavioural counterfactual that captures the position that would exist if no social security was paid.

The effect of social security on income can be separated into three linked but separate questions: first, what determines being a recipient? Second, what determines the amount that is received and third, what determines spending on charges?

### 2.3.1 Receipt of Social Security

Table 2.10 shows that overall, 56 per cent of individuals in Viet Nam live in households that receive formal social security transfers. This is much higher, 67 per cent, for those aged over 60 as one would expect, while for children aged less than 16 the proportion remains at 56 per cent. The raw probability of receipt (of any amount) is highest for the poorest quintile of original pre-transfer income (OMRI) for all age groups. However, for no group across any of the quintiles does receipt fall below 50 per cent. Table 2.10 shows that across the whole population and across age groups, there is no simple linear relationship between income level and the raw probabilities of receiving some form of social security. While higher proportions of the poorest quintile receive social security, the 3rd and 4th quintiles often have higher levels of receipt than the 2nd or richest quintiles.

**Table 2.10 : Percentage of Individual Living in Households that Receive Social Security Transfers by Income Quintile of Pre-transfer Income (OMRI)**

| %       | All<br>(54%) | Over 60s<br>(67%) | Under 16<br>(56%) |
|---------|--------------|-------------------|-------------------|
| Poorest | 64.5         | 73.8              | 62.3              |
| 2nd     | 51.3         | 59.9              | 50.4              |
| 3rd     | 51.5         | 63.8              | 50.1              |
| 4th     | 54.1         | 62.6              | 54.3              |
| Richest | 51.3         | 59.3              | 50.3              |

Source: Authors' calculations from VHLSS 2004

This picture is complicated because income composition changes by quintile, those relying solely on agricultural production are likely to be poorer and those receiving informal transfers may be on the whole richer, for instance. What is the likelihood of an individual living in a household which receives social security transfers after taking both income and other factors into account? To explore this question we use multivariate regression to assess the relationship between income and social security, independent of other factors. To do so we return to the definition of original market income before informal remittances (OMI) so that we can additionally see the relationship between remittances and social security.

## How Progressive is Social Security in Viet Nam?

Table 2.11 shows the results of a marginal probit regression on social security receipt (defined as an individual living in a household into which social security transfers are paid). The coefficients measure the change in probability of receiving social security for each discrete change in value of a continuous variable or, for a string variable, of the change in probability when compared to the comparison group. Coefficients can be interpreted as percentage changes - so that a 0.01 positive figure is a one per cent increase in probability of receipt - either per unit (such as income) or compared to the comparison group (such as females compared to males).

What individual level characteristics are associated with household receipt of social security? Marital status has no significant effect on the probability of receiving transfers. This means that widowhood, and thus surviving a pension receiving spouse or having lost a spouse in the war does not have a significant effect, despite these contingencies being specifically allowed for in social security design. However, given greater female longevity, any effect of widowhood may be entirely picked up by the significantly greater receipt (1.3 per cent) of social security of women compared to men, and the overall increase in probability of receipt among the elderly. Post-secondary qualifications increase the probability of receiving social security by 11 per cent.

There are many characteristics that operate at the household level, and given we can only identify most social security receipt at the household level, this makes interpretation of some household characteristics difficult. Several factors related to needs, being from an ethnic minority, the presence of children (aged under 16) and elderly people (aged 60 and over) and having experienced problems with ill-health in the household all are associated with significantly increased probability of the household receiving social security. Household resources were also important.

The presence in the household of a person working for formal wages, and additionally of someone working in the government sector, is significantly associated with receipt of social security. This makes strong intuitive sense with so much social security based on the contributory principle and thus linked to formal waged employment and with the substantial role of government employment in the formal employed sector.

**Table 2.11 : Marginal Probit Regression: The Receipt of Social Security**

Probit estimates

Number of observations = 40438  
Wald chi2(30) = 815.92  
Prob > chi2 = 0.0000  
Pseudo R2 = 0.0949

Log pseudo-likelihood = -25148.118

|                                                                    | Marginal probability | Robust Standard. Errors | Significance |
|--------------------------------------------------------------------|----------------------|-------------------------|--------------|
| <b>Individual characteristics</b>                                  |                      |                         |              |
| Marital Status (omitted category married)                          |                      |                         |              |
| single                                                             | 0.009                | 0.015                   | 0.537        |
| divorced                                                           | -0.038               | 0.035                   | 0.277        |
| widowed                                                            | -0.029               | 0.025                   | 0.242        |
| pre-marital age (13)                                               | 0.026                | 0.012                   | 0.025**      |
| Female (compared to male)                                          | 0.013                | 0.005                   | 0.005***     |
| age                                                                | -0.003               | 0.002                   | 0.127        |
| age2                                                               | 0.000                | 0.000                   | 0.169        |
| age3                                                               | 0.000                | 0.000                   | 0.769        |
| post 2ndry education                                               | 0.110                | 0.012                   | 0.000***     |
| <b>Household Characteristics</b>                                   |                      |                         |              |
| Ethnic Minority                                                    | 0.105                | 0.025                   | 0.000***     |
| Quintiles of Original Market Income OMI (poorest quintile omitted) |                      |                         |              |

|                                                  | Marginal probability | Robust Standard. Errors | Significance |
|--------------------------------------------------|----------------------|-------------------------|--------------|
| 2nd                                              | -0.090               | 0.023                   | 0.000***     |
| 3rd                                              | -0.067               | 0.024                   | 0.004***     |
| 4th                                              | -0.056               | 0.025                   | 0.021**      |
| Richest                                          | -0.072               | 0.028                   | 0.010***     |
| Remittance Income Received from within Viet Nam  | 0.136                | 0.020                   | 0.000***     |
| Overseas Remittance Income Received              | 0.049                | 0.031                   | 0.124        |
| Presence of formal waged employment in household | 0.015                | 0.009                   | 0.092*       |
| Household member employed in public sector       | 0.082                | 0.018                   | 0.000***     |
| Presence of self-employment in household         | -0.009               | 0.007                   | 0.196        |
| Presence of person aged 60 and over              | 0.099                | 0.017                   | 0.000***     |
| Presence of children aged under 16               | 0.055                | 0.017                   | 0.001***     |
| Difficulty experienced because of ill-health     | 0.185                | 0.018                   | 0.000***     |
| <b>Locational Characteristics</b>                |                      |                         |              |
| Urban                                            | 0.060                | 0.018                   | 0.001***     |
| Region ( North Central Coast omitted )           |                      |                         |              |
| Red River Delta                                  | 0.045                | 0.025                   | 0.073*       |
| North Eastern Mountain                           | 0.055                | 0.028                   | 0.055*       |
| North Western Mountain                           | 0.115                | 0.044                   | 0.013**      |
| South Central Coast                              | 0.025                | 0.031                   | 0.420        |
| Central Highlands                                | 0.155                | 0.032                   | 0.000***     |
| South East                                       | -0.127               | 0.030                   | 0.000***     |
| Mekong Delta                                     | -0.232               | 0.026                   | 0.000***     |

Source: Authors' calculations from VHLSS 2004

Notes: Significance at \*90%, \*\*95% and \*\*\*99%

Household income, defined as original market income, is also negatively associated with receipt of social security overall, taking all the other characteristics into account. This finding takes some careful interpretation, because the other factors included in the regression will themselves be strongly associated with income - region, ethnicity, age and ill health for instance. This multivariate finding on apparent progressivity in the receipt of social security thus does not contradict our previous findings of an obvious and marked regressive incidence; instead, it partly explains it by controlling for both the factors that determine income and the probability of receipt of social security. Using income defined as original market income (OMI), we see that the previous findings shown in Table 2.10 are confirmed through multivariate analysis. The highest probability of receiving social security is in the bottom quintile of income, which is the omitted category. This means that those in the second income quintile are nine per cent less likely to receive social security than the poorest quintile, those in the third quintile are 7 per cent less likely, those in the fourth quintile four percent less likely and those in the richest quintile are seven per cent less likely. There is clearly not a direct linear relationship with a divide in probability that reflects the design of social security programmes; with those directed at poor people and areas giving rise to higher incidence in the poorest quintile and those directed at contributory and other income replacement giving rise to highest probabilities in the fourth quintile.

The receipt of remittances is an important additional factor because one could presume that private transfers would more likely go to those in need and those who do not have social security. However, this appears not to be the case. Domestic remittances, those private transfers from households living within Viet Nam, are positively related to receipt of social security - even taking the presence of old people into account, as most private transfers are inter-generational from adult sons and daughters (Cox 2004). The household receipt of

domestic remittance increases the probability of receiving social security by around 14 per cent, whereas the receipt of international remittance (sent from outside Viet Nam) are not significant.

Location also appears important factor in receipt of social security, with households in urban areas around six per cent more likely to receive social security than rural. Region is also important and there is confirmation in this multivariate regression that those living in the Southern regions identified as areas of low receipt in earlier analysis in this chapter are indeed less likely to receive social security with The South East and Mekong Delta regions far less likely to receive social security while the mountain areas - North West, North East and Central Highlands as well as those living in the Red River Delta all have greater levels of receipt. These locational factors are probably proxies for geographical targeting of some transfers to remote or otherwise disadvantaged areas and proxies for the some of the unobserved characteristics of the cohort of people most likely to currently receive pensions - those who were employed in the public sector prior to retirement in the past - and those affected by the war and receiving social welfare war disablement benefits.

While this regression model of receipt of social security tells us about the incidence of social security, we need to look separately at the generosity of these transfers. We already know from previous tables in this chapter that the per-capita amounts of social security received is lowest for the poorest - both because of the design of contributory benefits providing benefits based on a fraction of earnings - and because of the limited and low level cash transfer interventions for poverty programmes in general.

Table 2.12 shows the Ordinary Least Squares (OLS) regression results for individuals who live in households where social security is received on the amount of social security received (using the log). For this regression we use the same set of predictive variables on the right hand side of the regression and we can thus interpret these results alongside the earlier results on receipt shown in Table 2.11.

Individual characteristics show that, while marital status was not significant in determining receipt of social security, it is associated with receiving lower amounts for single and widowed compared to married. Gender has no significant effect on the amount of social security received, despite raising the probability overall of receiving it. Age is important, younger years being associated with lower levels and older and middle ages with higher amounts, whereas age was not significant in the probability of receipt. This is probably a reflection of the relative generosity of pensions compared to other forms of social security. Having post secondary education is significantly associated with higher levels of benefit as well as higher probabilities of receiving it, and this reflects both access to formal waged employment and thus entitlement to contributory benefits as well as higher wages that would then give rise to higher levels of contributory benefits, especially pensions.

Household characteristics show that ethnic minority status lowers the amounts of social security received despite increasing probability of receipt. This can probably be interpreted from the prevalence of area and poverty targeting on households which tend overall to be poorer. Household level reported difficulties due to ill health are shown to increase social security amounts as well as previously being seen to increase the probability of receipt - however, interpreting this finding requires care as the incidence and amounts of transfers are likely to be directly related to the costs of treatment for ill health for many cases. This means that where specific health-related transfers are given they are likely to be taken up to cover treatments of a higher cost and thus likely to bias the amounts of transfers upwards. Additionally, another key question here will be to look at the actual income gains from such awards as such transfers are likely to be wholly or partially swallowed up by user charges for health care.

The presence of children under the age of 16 lowers the amount received despite the fact that it raises the probability of receipt and the presence of elderly people over 60 is strongly associated with higher amounts of social security as well as incidence and once more, this makes sense if the main social security expenditure is on retirement pensions. Turning to household level resources, the presence of domestic remittance income is associated with lower levels of social security, while it was seen to increase probability of receipt, and the presence of overseas remittance income is the reverse, it is associated with higher levels of social security but with a lower probability of receiving a public transfer. This suggests that informal targeting takes place within Viet Nam, with those elderly people with higher pensions receiving lower levels of remittances from their children in Viet Nam. However, remittances from outside Vietnam are likely to reflect the relative wealth of overseas Vietnamese and thus be less targeted on those that receive lower social security - either through pensions and perhaps also to households that do not necessarily contain pensioners.

**Table 2.12 : OLS Regression on Amount of Social Security (log) for Those Individuals Who Live in Households where Social Security is Received**

Number of obs = 22773 (clustered in 5127 households for robust standard errors)

F( 30, 5126) = 73.00

Prob &gt; F = 0.0000

R-squared = 0.2542

|                                                                        | Coefficient | Robust Std. Err. | Significance |
|------------------------------------------------------------------------|-------------|------------------|--------------|
| <b>Individual characteristics</b>                                      |             |                  |              |
| Marital Status (omitted category married)                              |             |                  |              |
| single                                                                 | -0.211      | 0.064            | 0.001 ***    |
| divorced                                                               | -0.219      | 0.161            | 0.175        |
| widowed                                                                | -0.653      | 0.106            | 0.000 ***    |
| pre-marital age (13)                                                   | -0.242      | 0.057            | 0.000 ***    |
| female                                                                 | 0.022       | 0.022            | 0.310        |
| age                                                                    | -0.052      | 0.007            | 0.000 ***    |
| age2                                                                   | 0.002       | 0.000            | 0.000 ***    |
| age3                                                                   | 0.000       | 0.000            | 0.000 ***    |
| post 2ndry education                                                   | 0.727       | 0.059            | 0.000 ***    |
| <b>Household Characteristics</b>                                       |             |                  |              |
| Ethnic Minority                                                        | -0.193      | 0.105            | 0.066 *      |
| Quintiles of Original Market Income GOMI<br>(poorest quintile omitted) |             |                  |              |
| 2nd                                                                    | -0.116      | 0.099            | 0.242        |
| 3rd                                                                    | -0.084      | 0.104            | 0.418        |
| 4th                                                                    | -0.190      | 0.110            | 0.085 *      |
| Richest                                                                | -0.002      | 0.131            | 0.988        |
| Remittance Income Received from within<br>Viet Nam                     | -0.186      | 0.107            | 0.082 *      |
| Overseas Remittance Income Received                                    | 0.392       | 0.155            | 0.012 **     |
| Presence of formal waged employment in<br>household                    | -0.025      | 0.047            | 0.596        |
| Household member employed in public sector                             | 0.202       | 0.083            | 0.015 **     |
| Presence of self-employment in household                               | -0.152      | 0.030            | 0.000 ***    |
| Presence of person aged 60 and over                                    | 0.961       | 0.076            | 0.000 ***    |
| Presence of children aged under 16                                     | -0.906      | 0.078            | 0.000 ***    |
| Difficulty experienced because of ill-health                           | 0.382       | 0.074            | 0.000 ***    |
| <b>Locational Characteristics</b>                                      |             |                  |              |
| Urban                                                                  | 0.460       | 0.086            | 0.000 ***    |
| Region ( North Central Coast omitted )                                 |             |                  |              |
| Red River Delta                                                        | 0.137       | 0.113            | 0.224        |
| North Eastern Mountain                                                 | 0.075       | 0.126            | 0.552        |
| North Western Mountain                                                 | -0.322      | 0.167            | 0.053        |
| South Central Coast                                                    | -0.693      | 0.135            | 0.000 ***    |
| Central Highlands                                                      | -0.572      | 0.150            | 0.000 ***    |
| South East                                                             | -0.389      | 0.146            | 0.008 ***    |
| Mekong Delta                                                           | -0.565      | 0.125            | 0.000 ***    |
| Constant                                                               | 5.691       | 0.194            | 0.000 ***    |

Source: Authors' calculations from VHLSS 2004

Notes: Significance at \*90%, \*\*95% and \*\*\*99%

The presence of a worker in the government sector in the household is strongly associated with higher levels of social security as well as increasing likelihood, but the more general presence of formal wage earners is negatively associated with levels of receipt, despite being positive associated with receipt itself and this is also the case with the presence of self-employed.

Overall, income levels make virtually no significant difference to the amounts of social security received. Compared to the poorest quintile of original market income, only those in the fourth quintile have significantly less social security. There are however two important points that must be remembered; first, we know that income level does determine whether one receives social security and that this results from two main forms of income related targeting (contemporary poverty or area/ethnic proxies of this and contributory history), and second, that many of the poverty related transfers compensate some or all of the costs of user charges for health and education and thus receipt of these amounts may have no net impact on disposable income. We return to discuss this second point below in the next section.

Locational factors also remain important in the levels of social security received. Urban households are associated with higher amounts of social security. This seems to make great intuitive sense because contributory benefits will reflect wage levels and wages are higher in urban areas, similarly specific transfers to meet education and health needs will reflect costs that are likely to be higher in urban areas. These explanations of cost and wage differences may also help interpret the regional variation, with Mekong Delta showing strong negative associations to accompany its previous low likelihood of receipt but the South East region, perhaps in part because of the economic strength of Ho Chi Minh City and its surrounding areas, showing an association with higher social security despite a much lower observed probability of receipt shown earlier. Additionally, the mountainous areas previously seen to have higher probabilities of receipt are shown to have lower levels of receipt.

### **2.3.2 Modelling User Charges & Expenditure**

In this final section we return to the issue of user charges and spending on health and education in order to rejoin the issue of social security transfers and their combined and net impact on incomes alongside user charges. To recap, we have seen how important user charges and spending levels are to an understanding to the progressivity of social security and that income definitions and data structures in VHLSS mean that there are indirect subsidies for health and education that are unobserved alongside observed income transfers, making consistent comparison over the income profile difficult if net effects of payments of charges for health and education are not taken into account. But net effects on disposable income can not be exactly specified in a theoretical sense because what we observe is both the post-facto allocation of transfers and charge rebates to specific circumstances of need (reduced charges for households defined as poor, in remote areas for instance), and also choices in consumption. These consumption choices are different for richer households who choose to consume more education and health with a relaxed budget constraint and poorer households who avoiding formal charges and can take up informal or market provision when faced with a tighter household budget constraint. For these reasons we specify user charges for education and health according to "compulsory or quasi-compulsory" charges and other spending and assess how these are related to income and to social security receipt.

Now that we have specified multivariate models of social security receipt and income we can continue our analysis using regression to assess how far charges are related to income and social security receipt. We use a series of OLS regression models to identify the associations of our crude assumptions of user charges and education and health spending according to "compulsory" (primary and lower secondary education and non-elective health-care usage) and "non-compulsory" spending. We estimate a model for each level of health and education separately using the same explanatory variables that were previously used for the social security models but adding each component of social security receipt on the right-hand side. We split social security into three components - education assistance, health assistance and non-specific social security transfers, effectively pensions and social welfare. The result of this approach leads us to estimate the relationship between social security components, income and other characteristics and spending on health and education of four different assumptions - compulsory education, non-compulsory education, compulsory health and non-compulsory health. The summary statistics for all four models are shown in Table 2.13.

### Health Spending

Individual characteristics are associated differently with "compulsory" health charges and overall health spending. This reflects the "non-elective" nature of compulsory charges and gives us some assurance that our crude specification of these subsets of charges has some explanatory power. Single, divorced and widowed people are more likely to have compulsory health charges, but only widowed continue this association across to general spending levels. Children are less associated with compulsory spending but this is not significant for all health spending. Age is a significant factor for compulsory spending but not for all spending, while post-secondary education significantly increases health spending across both compulsory and total profiles.

Household characteristics matter greatly for both forms of health spending. Minority ethnicity significantly decreases both spending on compulsory and all health spending. Income level is also very important overall. Income compared to being in the poorest quintile of original market income, significantly increases spending on compulsory charges but is not monotonically associated. However, total health spending rises monotonically with income. Overseas remittances are also significantly associated with both forms of spending on health, but not domestic remittances from within Vietnam. Both the presence of formal and self-employment in the household is significantly associated with both levels of health spending, however, the presence of someone employed in the Government sector is not.

**Table 2.13: OLS Regression Models for Spending on Health and Education**

|                                                                        | Model 1 -<br>Compulsory Health |       |     | Model 2<br>Total Health |       |     | Model 3-<br>Compulsory<br>Education |       |     | Model 4-<br>Total Education |       |     |
|------------------------------------------------------------------------|--------------------------------|-------|-----|-------------------------|-------|-----|-------------------------------------|-------|-----|-----------------------------|-------|-----|
| Individual characteristics                                             |                                |       |     |                         |       |     |                                     |       |     |                             |       |     |
| Marital Status (omitted category married)                              |                                |       |     |                         |       |     |                                     |       |     |                             |       |     |
| single                                                                 | 0.54                           | 0.000 | *** | -0.03                   | 0.565 |     | -1.89                               | 0.00  | *** | -1.69                       | 0.00  | *** |
| divorced                                                               | 0.66                           | 0.035 | **  | -0.12                   | 0.282 |     | -1.53                               | 0.00  | *** | -1.95                       | 0.00  | *** |
| widowed                                                                | 0.58                           | 0.018 | **  | -0.23                   | 0.004 | *** | -1.79                               | 0.00  | *** | -1.42                       | 0.00  | *** |
| pre-marital age (13)                                                   | -0.38                          | 0.001 | *** | -0.05                   | 0.305 |     | 3.67                                | 0.00  | *** | 1.42                        | 0.00  | *** |
| female                                                                 | 0.06                           | 0.207 |     | 0.02                    | 0.355 |     | 0.08                                | 0.09  | *   | 0.09                        | 0.02  | **  |
| age                                                                    | -0.10                          | 0.000 | *** | 0.00                    | 0.489 |     | 0.50                                | 0.00  | *** | 0.28                        | 0.00  | *** |
| age2                                                                   | 0.00                           | 0.000 | *** | 0.00                    | 0.308 |     | -0.01                               | 0.00  | *** | -0.01                       | 0.00  | *** |
| age3                                                                   | 0.00                           | 0.000 | *** | 0.00                    | 0.551 |     | 0.00                                | 0.00  | *** | 0.00                        | 0.00  | *** |
| post 2ndry education                                                   | 0.26                           | 0.042 | **  | 0.18                    | 0.000 | *** | -0.63                               | 0.00  | *** | 1.43                        | 0.00  | *** |
| Household Characteristics                                              |                                |       |     |                         |       |     |                                     |       |     |                             |       |     |
| Ethnic Minority                                                        | -0.851                         | 0.001 | *** | -1.103                  | 0.000 | *** | -1.004                              | 0.000 | *** | -1.404                      | 0.000 | *** |
| Quintiles of Original Market Income GOMI<br>(poorest quintile omitted) |                                |       |     |                         |       |     |                                     |       |     |                             |       |     |
| 2nd                                                                    | 0.192                          | 0.382 |     | 0.366                   | 0.000 | *** | 0.384                               | 0.210 |     | 0.403                       | 0.033 | **  |
| 3rd                                                                    | 0.634                          | 0.006 | *** | 0.712                   | 0.000 | *** | 0.466                               | 0.225 |     | 0.794                       | 0.000 | *** |
| 4th                                                                    | 0.596                          | 0.013 | **  | 0.805                   | 0.000 | *** | 0.259                               | 0.239 |     | 1.138                       | 0.000 | *** |
| Richest                                                                | 0.946                          | 0.000 | *** | 1.098                   | 0.000 | *** | 0.018                               | 0.283 |     | 1.118                       | 0.000 | *** |
| Remittance Income Received from within<br>Viet Nam (log)               | -0.027                         | 0.899 |     | 0.097                   | 0.250 |     | 0.917                               | 0.205 |     | -0.021                      | 0.183 |     |
| Overseas Remittance Income Received (log)                              | 0.734                          | 0.012 | **  | 0.423                   | 0.000 | *** | 0.038                               | 0.912 |     | 0.255                       | 0.000 | *** |
| Presence of formal waged employment in household                       | 0.177                          | 0.038 | **  | -0.062                  | 0.015 | **  | -0.796                              | 0.000 | *** | -0.011                      | 0.397 |     |
| Household member employed in public sector                             | -0.134                         | 0.445 |     | -0.080                  | 0.201 |     | -0.290                              | 0.170 |     | -0.839                      | 0.000 | *** |
| Presence of self-employment in household                               | 0.242                          | 0.000 | *** | -0.075                  | 0.018 | **  | -0.494                              | 0.000 | *** | 4.662                       | 0.000 | *** |
| Presence of person aged 60 and over                                    | 0.908                          | 0.000 | *** | 0.292                   | 0.000 | *** | -0.786                              | 0.000 | *** | 0.656                       | 0.028 | **  |

## How Progressive is Social Security in Viet Nam?

|                                               | Model 1 -<br>Compulsory Health |       |     | Model 2<br>Total Health |       |     | Model 3-<br>Compulsory<br>Education |       |     | Model 4-<br>Total Education |       |     |
|-----------------------------------------------|--------------------------------|-------|-----|-------------------------|-------|-----|-------------------------------------|-------|-----|-----------------------------|-------|-----|
| Presence of children aged under 16            | 0.664                          | 0.000 | *** | 0.057                   | 0.376 |     | 9.223                               | 0.000 | *** | 0.252                       | 0.174 |     |
| Difficulty experienced because of ill-health  | 2.626                          | 0.000 | *** | 1.097                   | 0.000 | *** | -0.248                              | 0.182 |     | -0.472                      | 0.008 | *** |
| <i>Social Security Status</i>                 |                                |       |     |                         |       |     |                                     |       |     |                             |       |     |
| Social Security Pension & Social Welfare(log) | 0.036                          | 0.014 | **  | 0.009                   | 0.136 |     | -0.094                              | 0.000 | *** | -0.021                      | 0.183 |     |
| Education subsidies(log)                      | 0.003                          | 0.883 |     | -0.007                  | 0.319 |     | 0.211                               | 0.000 | *** | 0.255                       | 0.000 | *** |
| Health Subsidies(log)                         | 0.460                          | 0.000 | *** | 0.101                   | 0.000 | *** | -0.028                              | 0.061 | *   | -0.011                      | 0.397 |     |
| <b>Locational Characteristics</b>             |                                |       |     |                         |       |     |                                     |       |     |                             |       |     |
| Urban                                         | 0.300                          | 0.100 | *   | 0.152                   | 0.004 | *** | -0.251                              | 0.189 |     | 0.306                       | 0.084 | *   |
| Region ( North Central Coast omitted )        |                                |       |     |                         |       |     |                                     |       |     |                             |       |     |
| Red River Delta                               | 0.428                          | 0.098 | *   | 0.135                   | 0.147 |     | -0.855                              | 0.000 | *** | -0.769                      | 0.000 | *** |
| North Eastern Mountain                        | -0.709                         | 0.017 | **  | -0.250                  | 0.056 | *   | -0.643                              | 0.011 | **  | -0.731                      | 0.001 | *** |
| North Western Mountain                        | 0.697                          | 0.097 | *   | 0.421                   | 0.017 | **  | -0.674                              | 0.099 | *   | -1.294                      | 0.000 | *** |
| South Central Coast                           | 1.106                          | 0.000 | *** | 0.150                   | 0.172 |     | -0.623                              | 0.020 | **  | -1.200                      | 0.000 | *** |
| Central Highlands                             | 1.550                          | 0.000 | *** | 0.247                   | 0.107 |     | 0.004                               | 0.988 |     | -0.902                      | 0.000 | *** |
| South East                                    | 1.912                          | 0.000 | *** | 0.517                   | 0.000 | *** | -0.635                              | 0.020 | **  | -1.130                      | 0.000 | *** |
| Mekong Delta                                  | 2.578                          | 0.000 | *** | 0.706                   | 0.000 | *** | -1.537                              | 0.000 | *** | -2.591                      | 0.000 | *** |
| Constant                                      | 0.15                           | 0.749 |     | 3.78                    | 0.000 | *** | #####                               | 0.000 | *** | -1.55                       | 0.00  | *** |

Source: Authors' calculations from VHLSS 2004

Notes: Significance at \*90%, \*\*95% and \*\*\*99%

The presence of children and of elderly people in the household is associated with increased spending on compulsory health charges, but only the presence of elderly continues to increase levels of spending on all health. As expected, those households that report difficulties due to ill health have significantly higher levels of both compulsory and all health spending.

Household level social security receipt has previously been seen to be associated with these household need indicators (ill-health, the presence of children and elderly people) but the clear link between direct transfers to meet health costs is clear because these health subsidies are clearly associated with increased spending on compulsory and all health costs, while education targeted subsidies have no association in their own right. However, there is evidence of more general transfers, pensions and social welfare payments, being associated with increased spending on compulsory charges.

Locational factors are also important but difficult to interpret without clearer data on location and distance of health care facilities, in particular hospitals. Living in urban areas is associated with higher spending on compulsory health charges and even more highly associated with all health spending - probably a reflection of unobserved better access and provision levels of higher cost treatments. Regional variation is more difficult to interpret as the North Central Coast region with the middle or average income profile is the omitted variable for comparison and all regions except the North Eastern Mountains appear to spend more (have positive signs) than this region on compulsory charges. This may reflect administrative allocation of health subsidies or some other unobserved factors. Regional differences in total health spending are even more difficult to interpret with the two northern mountain regions and the two southernmost regions all significantly associated with higher levels of health spending overall.

### *Education Spending*

Education charges and education spending are clearly associated with individual characteristics with single, divorced and widowed people spending significantly less on both compulsory and all education charges

compared to married people, independent of being aged under 13 and thus of school age, for whom spending levels are, of course, significantly greater. There is a small but significant increase in the level of spending for women across both compulsory and all education spending. Age is positively associated with education spending for younger people and negatively related for older, as expected. However, there is an interesting set of associations linked to individuals themselves holding post secondary education. This is negatively associated with compulsory education and positively associated with all education costs - showing a clear association with increased spending above and beyond compulsory minimum levels for those with existing high levels of education, who we assume value education highly for their children.

Being from an ethnic minority group is negatively associated with spending on both compulsory and all education spending. This must be interpreted with some care because there are unobserved subsidies to school fees that are allocated to areas with high levels of ethnic minority residents - this would lead to lower charges and thus reduced spending even if up-take levels were the same as for Vietnamese and Chinese ethnicities. There is no association of income on spending levels on compulsory education but significant and rising association in the 2nd 3rd and 4th income quintiles for spending on all education. This suggests that the additional elements of school education and of tertiary education are strongly associated with income levels. Remittance income has no significance other than overseas remittances being associated with higher levels of spending on non-compulsory education. Formal waged employment and self employment in the household are both associated with spending less on compulsory education, however, their relationship with other spending on education is highly positive for self-employed and highly positive for government sector employees. The presence of elderly people in the household is negatively associated with levels of compulsory spending and positively associated with spending more on other education. The extent to which additional spending is on the under-16 age group appears to be reflected in the fact that the presence of children is positively associated with compulsory levels of spending but is not significant for other education spending. Ill health is seen to reduce spending on non-compulsory education.

Social security is seen to have a very positive and direct association of education related subsidies and scholarships - a direct reflection of associated enrolment. Health subsidies are seen to have a small association with reduced spending on compulsory education, the reason is not immediately clear but perhaps reflects unobserved costs of ill-health such as children involved in caring or replacing lost income of those who are ill. Similarly there is an apparently small negative relationship between general social security transfers, pensions and social welfare, and compulsory education. These relationships will be explored more fully in Chapter 4 when we discuss and analyse potential behavioural effects of social security on school enrolment.

Locational factors require careful consideration because cost factors from public subsidies to education may be unequal and unobserved. This means that the negative association with living in an urban area and spending on compulsory education may reflect lower school costs - perhaps due to older more established schools with lower building funds or other factors that can not be identified in the data. Normally one would presume that urban costs would be higher, due to higher wage costs for teachers and staff - and this may give rise to the association of urban areas with small increases in spending on other non-compulsory education. As we found with health charges, interpreting regional differences in spending patterns across compulsory and non-compulsory education is difficult. There appears to be significantly lower spending in almost all regions than the omitted region (North Central Coast) across both types of education spending.

### ***2.3.3 Cumulative evidence from Income Profiles and Models of Social Security and Charges***

Our three sets of models, on social security receipt, on amounts of social security and on the user charges and spending for education and health together give us an improved understanding of what characteristics are associated with overall fiscal progressivity - the combination of transfers and charges that were seen to be so influential in patterns of redistribution in part 2.2 of this chapter.

The central concern for progressivity is how far entitlement and net impacts of social security relate to income. Our three sets of models show how far income is important independently of other factors. We find that higher incomes are associated with a lower probability of receiving social security, but not-related to income in the amount they provide for entitled households. However, when we separate out social security into health and

education transfers and put them alongside user charges and spending we find that income levels are still relevant for levels of compulsory and non-compulsory health spending and for non-compulsory education spending. Put the other way round, the combination of compulsory attendance for primary schooling with direct subsidies to households for education frees (and unobserved at-source fee reductions acting as benefits in kind), means that the combination of social security and education is progressive. The amount that Vietnamese households have to spend on compulsory education is not apparently linked to their income once specific social security transfers and other factors are taken into account. This finding is important but has some important caveats. First, that as we saw in Chapter 1, there is a great deal of different practice in provision of compulsory schooling at primary level, with half-day provision common and "informal charges" for greater levels of provision operating alongside a range of non-compensated user charges. Second, our models of charges suggest that additional spending on education above these compulsory minimum levels is highly associated with income. This means that progressivity for compulsory education may not be linked to equality of opportunity.

On health subsidies and spending it is more difficult to interpret the direct links between income and health care charges because there is uncertainty about how far income is reduced by health or whether ill-health is a product, in part, of lower income. What is clear from our results is that there is a strong association with spending on "compulsory" non-elective use of health care and income except for the poorest two quintiles and a clear monotonic relationship with spending on health and income for non-compulsory spending. This suggests that targeting health subsidies on poorer families does reduce the impact of income on up-take.

At this point it is, however, important to re-introduce the evidence from earlier analysis about the net financial impact of these charges and subsidies. Table 2.8 has already shown us that the effect of giving transfers to the poor to pay health and education charges is neutral - the poorest quintile begin with an income of 1.9 million VND and after taxes, transfers and the payment of charges they have exactly the same "disposable" income. The progressivity at the bottom end of the income distribution is mostly the outcome of redistributing money from the state to households for them to pay the state back in user-charges.

Other aspects of income clearly show social security as regressive. Social security is more likely paid alongside informal remittances - thus duplicating rather than replacing informal systems of support. This is partly because the target groups for formal and informal social security both focus on the elderly and there will be large numbers of non-pensioner elders who receive remittances who receive no pension as well as significant number of pensioners that also receive remittances. However, overseas remittances, themselves most likely to be higher in value, are associated with higher levels of social security payments. Overseas remittances are also associated with higher non-compulsory spending on health and education.

We began this chapter by profiling social security across various sub-groups of the population and the results of our models taken together with these profiles allow us to come to some more robust conclusions about how far social security is equally provided across ethnic, regional and urban-rural differences. We can conclude that region does matter, independent of income and the characteristics of residents. There is a common finding that the two southernmost regions (South East and Mekong Delta) do worst in both levels of receipt and amounts of social security and pay more for health, but less on education. Ethnicity also matters - minority ethnicity households are more likely to receive social security but receive lower amounts, but they also spend less on health and education - both in compulsory and non-compulsory charges. However, the overall progressivity of social security on ethnic lines and its impact on net disposable income outcomes is not clearly discernable because of the significant levels of in-kind and area targeted resources that are not captured in income data. Urban residents are more likely to receive social security and receive higher amounts, even when formal employment status and income level is taken into account. However, urban residents pay more in health charges, both compulsory and non-compulsory and more on overall education despite paying less for compulsory education.

We have also found some significant drivers for regressive social security - the presence of formal waged and of government sector employees is linked to higher probability of receiving social security and the latter factor gives rise to much higher awards. Self-employment is linked to lower probability of receipt and lower awards. However, these are entirely consistent with a system that has the majority of payments made on a contributory long-term basis - pensions. What becomes apparent from the analysis in this chapter is how far

the system is dualistic - with most recipients either enjoying retirement pensions based on previous income and status or, if they are poorer, on targeted assistance that links their income to specific needs of education and health with little net difference in disposable income as a result.

## 2.4 Summary

This chapter has described and analysed social security receipt in a number of ways in order to profile income progressivity alongside other potential drivers of differences in entitlement and income outcomes. Before any summary of our findings it is wise to remind readers of three caveats.

First, we are only able to do so using a current (2004) cross-section of the Vietnamese population and that social security entitlement is based on a contributory history as well as current characteristics. Cross-sectional progressivity within a pay as you go pension system relies on the relative position of current contributors and recipients, whereas a longitudinal profile would assess how far pension entitlements were the result of spreading income over the lifetimes of contributors through intra-personal redistribution and also the result of inter-personal redistribution as some pay in more than they receive and thus allow redistribution between contributors. Given the situation of the majority of current Vietnamese pensioners who are grandfathered into the system, such a lifetime analysis could probably not accurately reflect redistribution as it is current contributors, both from social insurance contributions and from general revenues, are bearing the burden of a cohort where no real actuarial contributory principles have been applied. Given these circumstances, cross-sectional profiles are more favourable indeed.

The second caveat is the absence of an accurate counterfactual to show a more accurate position of people "before" social security. Once again, cross-sectional data limits any such counterfactual for current pensioners, composed as they are in the majority of ex-employees of the Vietnamese state prior to *doi moi*. To construct a counterfactual for this group would have to stand history on its head and ignore the fact, for instance, that there was no alternative such as a market for private savings towards retirement under socialist governments before *doi moi*. Similarly, the social welfare payments to survivors and those disabled by the war of liberation are primarily targeted on past events, despite the presence of more recent cases with disablement caused by the after effects of war and chemical contamination.

The third caveat relates to data quality and limitations. We are unable to accurately capture payments from the household population in to the system - either from income tax, contributions or consumption taxes- and we have no ability to profile other forms of taxation as revenue for social security programmes.

- It is clear that using the income definition currently employed by GSO that Social Security is not equally distributed across groups and across the income profile. Large portions of expenditure on social security are "captured" by the non-poor.
- When social security transfers are subtracted from current incomes to produce an "original market income" definition, it leads to a slightly more progressive profile for social security. However, much of this increase in progressivity is due to the fact that removing pensions has an impact on households who are predominantly in the 3rd and 4th quintiles of the income distribution and relies on the assumption that removal of the pension produces no additional income to replace it, when in fact recipients are ex public servants and have higher than average incomes over their working lives.
- Different forms of transfers using different targeting approaches lead to large differences in progressive outcomes. Low income today means that "anti-poverty" approaches target either identified low income households with subsidies or target areas that have characteristics associated with poverty - remoteness, high proportions of ethnic minorities for instance. The transfers to these people tend to be more aligned with the payment of health and, to a lesser extent, education costs. This means that to measure the impact of social security and to accurately rank households by their net disposable incomes, it is necessary to take into account health and education costs.

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- Income inequality is reduced by informal and formal transfers and by taxation but payments of user charges increases income inequality to higher levels than seen in original market income.
- Income progressivity in entitlement to Vietnamese social security is primarily obtained by high proportions of the population receiving help with specific costs of health and education and this offsets the regressive impact of pensions unless the net impact of health and education costs are taken into account which renders redistribution neutral to the poorest quintile.
- Modelling of receipt and generosity of social security alongside user charges for health and education point to income having significant associations with social security receipt but that there remain clear regional, ethnic and urban-rural drivers in differences in entitlement and in user charge payments.

Alongside income progressivity, there remain two important questions relating to social security. First, how does entitlement link to Vietnamese measures of poverty, which rely on expenditure rather than income definitions? Second, what impact does social security have on individuals and households? These questions are pursued in Chapters 3 and 4 respectively.

## 3. Poverty and Social Security

### 3.1 Introduction

The analysis of incomes and income distribution in Chapter 2 was necessary in order to decompose social security transfers from other income sources and to estimate their impact on the overall income distribution. However, analysis based on income is not the standard approach taken for analysis of living standards in developing and low income countries; household consumption expenditure tends to be far more accurately measured than income. The income data in VHLSS is of very good quality because it is collected alongside expenditure data, and is exemplary in surveys undertaken in low income countries. Consumption expenditure however remains an essential and necessary part of the picture on progressivity of social security because it is the basis for poverty analysis. Only by looking at consumption expenditure are we able to say how far social security interacts with poverty in Viet Nam. Vietnamese poverty analysis since doi moi has consistently been applied on consumption data from three previous VHLSS surveys: 1992, 1997, 2002 and most recently the 2004 survey.

Glewwe (2005) has calculated consumption expenditure measures, adjusting for price differences; and estimated a poverty line. This has been the basis for recent poverty analysis in Viet Nam and this chapter builds on Glewwe's work; to look at the extent to which different forms of social security impact on poverty.

### 3.2 Estimation of consumption expenditure and poverty

Our analysis is entirely consistent with official GSO poverty analysis using 2004 VHLSS data. We adopt Glewwe's "best" consumption measure for 2004, which is not directly comparable with the procedures used for the earlier surveys<sup>42</sup>.

Consumption measure includes:

- Food expenditures- holiday and normal; includes food received from own production and gifts, as well as food acquired by bartering. Valuations are provided by respondents.
- Frequent and infrequent non-food purchases, but excluding durable goods; instead use values are estimated for durable goods
- Education, health and utility expenses
- Rental value of housing - estimated based on a regression method to estimate the total value of housing; rental value is taken as 3% of this total value guided by observations on private renting households.

Expenditure on remittances, on taxes; and on large purchases such as acquiring durable goods are not included. Glewwe's approach follows standard best practice<sup>43</sup>. One potential concern is that this approach imputes an estimated notional rental value of housing for those who own their homes. This approach allows the population to be accurately ranked according to consistent measures of their economic welfare but can be misleading to anyone who is interested in more applied policy applications of reducing poverty because notional expenditure, by its nature is not actually empirically experienced. Another area of potential concern is the treatment of large exceptional health expenditures, such as on in-patient hospital.

Price differences, both over time and geographically, are fully adjusted for using Glewwe's approach and applied to food, non-food and housing items separately. Real consumption is then expressed on a per capita basis.

This methodology follows standard international practice and allows for the poverty line for Viet Nam in 2004 to be based on the 2002 consumption baskets that supply 2100kcal per capita together with an allowance for

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<sup>42</sup> Glewwe also computed consumption measures which are comparable with the earlier surveys, but these are not used here because we do not try to construct a time series.

<sup>43</sup> Consumption estimates are compared with surveys and the national accounts; and consistency assured with these other sources.

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non-food needs. Table 3.1 gives details of the poverty headcounts and of depth of poverty. A second, more stringent poverty line solely concerned with food consumption is also shown. On average, poverty in Viet Nam has fallen to cover only 19.5 per cent of the population. Those with consumption below this level, have on average a consumption level 24 per cent below the poverty line, termed the depth of poverty or "poverty gap". Extreme poverty, where poverty level food consumption is not obtained, accounts for a far smaller proportion of the population, only 7.4 per cent.

**Table 3.1: Dimensions of poverty in Viet Nam, 2004**

|                      | poverty headcount<br>(% of population) | depth of poverty for<br>the poor<br>(% of poverty line) | extreme poverty<br>headcount<br>(% of population) |
|----------------------|----------------------------------------|---------------------------------------------------------|---------------------------------------------------|
| National             | 19.5                                   | 24.2                                                    | 7.4                                               |
| Urban                | 3.6                                    | 19.6                                                    | 0.8                                               |
| Rural                | 25.0                                   | 24.4                                                    | 9.7                                               |
| <b>Ethnicity</b>     |                                        |                                                         |                                                   |
| Vietnamese & Chinese | 13.5                                   | 19.4                                                    | 3.5                                               |
| Ethnic Minority      | 60.7                                   | 31.6                                                    | 34.2                                              |
| <b>Region</b>        |                                        |                                                         |                                                   |
| Red River Delta      | 12.1                                   | 17.4                                                    | 2.3                                               |
| North East           | 29.4                                   | 23.9                                                    | 11.4                                              |
| North West           | 58.6                                   | 32.6                                                    | 34.8                                              |
| North Central Coast  | 31.9                                   | 25.4                                                    | 13.6                                              |
| South Central Coast  | 19.0                                   | 26.8                                                    | 8.1                                               |
| Central Highlands    | 33.2                                   | 32.1                                                    | 18.8                                              |
| Southeast            | 5.4                                    | 22.4                                                    | 1.5                                               |
| Mekong Delta         | 15.9                                   | 18.9                                                    | 3.9                                               |

Source: Authors' calculations from VHLSS 2004

Poverty headcounts are much higher in rural than urban areas both for poverty and extreme poverty, although there is less difference in depth of poverty for the poor. Poverty headcounts for the ethnic minority populations are far higher than for the Vietnamese and Chinese populations combined and poverty gaps are far higher. Almost 61 percent of the ethnic minority population is poor, over four times the rate for Vietnamese and Chinese (13.5 percent) and on average the poor ethnic minority population are almost one third below poverty level (31.6 percent) compared to poor Vietnamese and Chinese who are on average only one fifth (19.4 percent) below. When extreme poverty is considered, ethnic minorities have ten times the poverty headcount of the Vietnamese and Chinese - 34 percent compared to 3.5 percent. There are also strong regional patterns; with all measures highest in the North West, followed by the Central Highlands; and lowest in the South East and Red River Delta, partly explained by the large urban areas, Ho Chi Minh City and Ha Noi in those regions. Some of this regional variation will be explained by geographical concentrations of ethnic minority populations within the regions, for instance, the North West and Central Highlands.

One aspect of this current standard measure of Vietnamese poverty is that the treatment of housing costs, both actual and imputed, has a particular effect for some groups, particularly in the comparison of rent payers and others who "own" their home. Table 3.2 repeats the profile shown previously in Table 3.1 but uses an adapted poverty measure that omits housing costs. This adapted measure uses the same poverty line as before<sup>44</sup> and shows that overall poverty headcount is higher, at 25.1 percent compared with 19 per cent previously. Unsurprisingly, urban poverty headcounts rise most sharply, from around four to fifteen percent but

<sup>44</sup> We re-estimate the poverty line consumption to remove housing costs but estimates were unreliable and appeared too low. Further exploration of this aspect of poverty measurement is recommended for future research.

there is a very substantial rise in the depth of poverty once housing costs are ignored for urban populations - the urban poor are almost 80 per cent below poverty if housing expenditure is ignored compared to only 20 per cent previously. There are also differences between poverty profiles with and without housing costs by region and ethnicity but these can be seen as mostly the effect of underlying urban profiles, with largest changes in the Red River and South East regions that contain Ha Noi and Ho Chi Minh City respectively and for the majority Vietnamese/Chinese populations who are more likely to live in urban areas compared to ethnic minorities.

Our calculations are not designed to be definitive but to sound a cautionary note about current practice in poverty measurement using VHLSS. While our calculations do not fully account for the effect of housing costs on poverty measurement they do clearly show the potential downward bias on urban poverty in the current approach. This seems crucial for two reasons. First, we have already seen that the sampling for household surveys undercounts migrant urban populations and thus those who are potentially at high risk of poverty. The current standard use of expenditure including housing costs further biases downwards urban poverty estimates in addition. The second reason relates to consistent measurement over time, and the remarkable falls in poverty in Viet Nam since *doi moi*. While the issue of housing costs and consumption is unlikely to radically alter the story of poverty falling quickly over time, it is worth future analysis of trends to assess how far and fast poverty continues to fall if consumption is decomposed with housing costs being one major element that could warrant amended results. Another area worth specific consideration would be health spending, which can be both lumpy but also subject to faster than average inflation through formal and informal charges.

**Table 3.2 : Dimensions of poverty in Viet Nam using Expenditure without Housing Costs, 2004**

|                      | poverty headcount;<br>housing costs excluded,<br>(original poverty line) | depth; housing costs<br>excluded,<br>(original poverty line) |
|----------------------|--------------------------------------------------------------------------|--------------------------------------------------------------|
| National             | 25.1                                                                     |                                                              |
| Urban                | 15.1                                                                     | 79.4                                                         |
| Rural                | 28.6                                                                     | 31.4                                                         |
| <b>Ethnicity</b>     |                                                                          |                                                              |
| Vietnamese & Chinese | 19.8                                                                     | 39.3                                                         |
| Ethnic Minority      | 61.6                                                                     | 37.8                                                         |
| <b>Region</b>        |                                                                          |                                                              |
| Red River Delta      | 24.8                                                                     | 53.1                                                         |
| North East           | 32.2                                                                     | 30.5                                                         |
| North West           | 59.0                                                                     | 38.8                                                         |
| North Central Coast  | 35.2                                                                     | 31.9                                                         |
| South Central Coast  | 23.1                                                                     | 35.5                                                         |
| Central Highlands    | 35.0                                                                     | 38.0                                                         |
| Southeast            | 12.7                                                                     | 59.1                                                         |
| Mekong Delta         | 18.0                                                                     | 26.0                                                         |

Source: Authors' calculations from VHLSS 2004

### 3.3 Patterns of social security receipts in relation to poverty

The remainder of this chapter focuses on the five kinds of social security transfers discussed in chapter 2: education assistance; health assistance; social insurance in work; social welfare payments; and social insurance paid in the form of pensions. As seen in chapter 2 the two most important sources in financial terms are pensions and health assistance. How far are these transfers received by the poor?

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We divide the whole population into different groups depending on their position relative to the poverty line, to distinguish those far above the poverty line (thus less likely to fall into poverty in future); those just above the poverty line (so potentially vulnerable to falling into poverty in future); those just below the poverty line (who might be able to move above the poverty line in future, or may just be poor in this period due to "bad luck"; and those far below the poverty line - so likely to be persistently poor. This classification is based on the consumption measure above; and this means that some of their consumption may have been financed by social security receipts and does not represent any form of counterfactual argument for a situation before or without social security transfers.

**Table 3.3: Percentage of population receiving social security benefits, by poverty group**

| household poverty groups:<br>consumption in relation to<br>poverty line | % receiving<br>education<br>assistance | % receiving<br>health<br>assistance | % receiving<br>social insurance<br>in work | % receiving<br>social welfare<br>payments | % receiving<br>pensions |
|-------------------------------------------------------------------------|----------------------------------------|-------------------------------------|--------------------------------------------|-------------------------------------------|-------------------------|
| more than twice poverty line                                            | 23.8%                                  | 36.3%                               | 3.9%                                       | 5.7%                                      | 16.7%                   |
| 1.5 to 1.99 times                                                       | 18.1%                                  | 33.9%                               | 1.2%                                       | 7.1%                                      | 9.8%                    |
| 1.2 to 1.49 times                                                       | 19.4%                                  | 31.1%                               | 0.5%                                       | 6.8%                                      | 6.9%                    |
| 1 to 1.19 times                                                         | 19.5%                                  | 34.5%                               | 0.8%                                       | 9.3%                                      | 7.2%                    |
| 0.8 to 0.99 times                                                       | 19.1%                                  | 34.0%                               | 0.3%                                       | 13.4%                                     | 4.1%                    |
| 0.5 to 0.79 times                                                       | 28.2%                                  | 37.1%                               | 0.2%                                       | 12.7%                                     | 2.9%                    |
| less than half poverty line                                             | 40.7%                                  | 34.3%                               | 3.7%                                       | 32.4%                                     | 1.6%                    |
| All                                                                     | 21.9%                                  | 34.7%                               | 1.9%                                       | 8.3%                                      | 10.4%                   |

Source: Authors' calculations from VHLSS 2004

Table 3.3 shows the proportion of households in each poverty category receiving any of each of the benefits. The percentages receiving education assistance and social welfare benefits are highest among the poorest groups, and much lower among less poor groups. The reverse is the case for pensions which are received more by those in richer households and less among the poorest households; of course receipt of a pension may be a factor helping some individuals who would otherwise be poor escape poverty - a factor considered in more detail below. The most commonly received social security benefit is health assistance; with the numbers receiving this being uniform throughout the distribution. Few individuals benefit from social insurance in work.

Table 3.4 considers the average amount of benefit received, conditional on receiving some benefit, again disaggregated by poverty group. In absolute terms pensions represent by far the largest amounts; followed by social welfare benefits (for those that receive them). For almost all of these benefits the absolute amounts of benefit received by less poor households (per capita) are substantially greater - sometimes by a factor of ten - than those in the poorest households. The inequality in this respect is less marked in relation to education assistance compared to the other benefits.

However, it is important also to consider this in relation to household consumption levels. The lower panel of Table 3.4 shows the amount of transfers received expressed as a proportion of per capita consumption expenditure. This shows a more progressive pattern in many cases. By far the largest proportions are for receipts of pensions; and the proportions of household consumption this represents are at least as high for the poorest households in comparison to the less poor.

**Table 3.4: Amount of benefit per capita received by individuals who benefit from different social security receipts**

| household poverty groups:<br>consumption in relation to<br>poverty line            | Education<br>assistance | Health<br>assistance | Social<br>insurance in<br>work | Social welfare<br>payments | Pensions      |
|------------------------------------------------------------------------------------|-------------------------|----------------------|--------------------------------|----------------------------|---------------|
| Average receipts for beneficiaries<br>(Thousand VND)                               |                         |                      |                                |                            |               |
| more than twice poverty line                                                       | 96.6                    | 394.0                | 314.7                          | 535.7                      | 2547.7        |
| 1.5 to 1.99 times                                                                  | 45.4                    | 119.7                | 184.5                          | 514.9                      | 1598.0        |
| 1.2 to 1.49 times                                                                  | 28.6                    | 80.2                 | 30.0                           | 436.4                      | 1370.4        |
| 1 to 1.19 times                                                                    | 23.1                    | 63.9                 | 36.2                           | 389.3                      | 1169.7        |
| 0.8 to 0.99 times                                                                  | 37.0                    | 54.3                 | 47.3                           | 242.6                      | 830.9         |
| 0.5 to 0.79 times                                                                  | 29.6                    | 39.0                 | 5.0                            | 149.8                      | 711.6         |
| less than half poverty line                                                        | 20.8                    | 36.1                 | 44.0                           | 58.0                       | 425.0         |
| <b>All</b>                                                                         | <b>58.8</b>             | <b>201.7</b>         | <b>260.1</b>                   | <b>375.8</b>               | <b>2063.8</b> |
| Average receipts for beneficiaries<br>as a proportion of household<br>expenditure: |                         |                      |                                |                            |               |
| more than twice poverty line                                                       | 1.3%                    | 4.5%                 | 3.8%                           | 9.1%                       | 34.8%         |
| 1.5 to 1.99 times                                                                  | 1.3%                    | 3.3%                 | 5.1%                           | 14.5%                      | 43.5%         |
| 1.2 to 1.49 times                                                                  | 1.0%                    | 2.9%                 | 1.1%                           | 15.8%                      | 48.6%         |
| 1 to 1.19 times                                                                    | 1.0%                    | 2.8%                 | 1.6%                           | 17.1%                      | 51.0%         |
| 0.8 to 0.99 times                                                                  | 2.0%                    | 2.9%                 | 2.6%                           | 13.0%                      | 44.2%         |
| 0.5 to 0.79 times                                                                  | 2.2%                    | 2.8%                 | 0.5%                           | 10.8%                      | 50.6%         |
| less than half poverty line                                                        | 2.4%                    | 3.9%                 | 4.9%                           | 7.0%                       | 46.8%         |
| <b>All</b>                                                                         | <b>1.4%</b>             | <b>3.6%</b>          | <b>3.7%</b>                    | <b>12.4%</b>               | <b>39.5%</b>  |

Source: Authors' calculations from VHLSS 2004

The second largest receipt, social welfare payments, is larger relative to consumption for those above the poverty line than for those below. Educational assistance is very small relative to consumption, but the relative benefits are greater for the poorest compared to those enjoying higher consumption levels.

### 3.4 Trying to assess the impact of social security receipts on poverty

The levels of household consumption discussed in Section 3.2 are likely to include items that were financed out of the social security receipts. A crude way of assessing the maximum impact of social security receipts on poverty is subtract a household's social security receipts from its consumption expenditure over the period, and recomputing poverty based on this new expenditure measure. When we do this we make two strong assumptions: First, that the income from social security receipts was all used to finance consumption of the household; and second, there are no behavioural effects from receiving social security such as reducing household earnings. It is unlikely that both these assumptions hold, and this means that the calculations suggested above and presented below will almost certainly overestimate poverty in the absence of the social security and so overestimate the impact of social security on poverty. De Walle (2004), looking solely at poverty related transfers, estimates a marginal propensity to consume from transfers that takes into account the behavioural consequences of their receipt. However, it is not wise to extrapolate such assumptions to a wider set of transfers, and in particular pensions which smooth consumption over the lifetime and which are predicated on "retirement" from the main occupation that led to pension entitlement. Despite the fact that our calculations do not include any cross-sectional estimate of marginal propensity to consume from transfers they still provide a useful indicator of the order of magnitude, but one that is likely to be close to an upper bound.

**Table 3.5: Estimated Poverty Headcount Measures in Absence of Different Social Security Receipts**

| Poverty headcount estimates under different assumptions |          |                                    |                                 |                                           |                                          |                     |                                               |
|---------------------------------------------------------|----------|------------------------------------|---------------------------------|-------------------------------------------|------------------------------------------|---------------------|-----------------------------------------------|
|                                                         | Original | without<br>education<br>assistance | without<br>health<br>assistance | without<br>social<br>insurance<br>in work | without<br>social<br>welfare<br>payments | without<br>pensions | without<br>any social<br>security<br>payments |
| National                                                | 19.5     | 19.6                               | 20.1                            | 19.5                                      | 20.3                                     | 22.5                | 24.1                                          |
| Urban                                                   | 3.6      | 3.6                                | 3.7                             | 3.6                                       | 3.7                                      | 6.2                 | 6.7                                           |
| Rural                                                   | 25.0     | 25.1                               | 25.8                            | 25.0                                      | 26.1                                     | 28.1                | 30.1                                          |
| <b>Region</b>                                           |          |                                    |                                 |                                           |                                          |                     |                                               |
| Red River Delta                                         | 12.1     | 12.1                               | 12.9                            | 12.1                                      | 12.8                                     | 17.1                | 18.8                                          |
| North East Mountains                                    | 29.4     | 29.6                               | 30.2                            | 29.4                                      | 30.5                                     | 35.0                | 37.0                                          |
| North West Mountains                                    | 58.6     | 58.8                               | 59.9                            | 58.6                                      | 59.4                                     | 61.8                | 63.4                                          |
| North Central Coast                                     | 31.9     | 31.9                               | 32.4                            | 31.9                                      | 33.9                                     | 37.2                | 39.8                                          |
| South Central Coast                                     | 19.0     | 19.2                               | 20.0                            | 19.0                                      | 19.8                                     | 21.3                | 23.1                                          |
| Central Highlands                                       | 33.2     | 33.6                               | 33.7                            | 33.3                                      | 33.7                                     | 34.7                | 35.8                                          |
| Southeast                                               | 5.4      | 5.4                                | 5.6                             | 5.4                                       | 5.6                                      | 5.9                 | 6.8                                           |
| Mekong Delta                                            | 15.9     | 15.9                               | 16.1                            | 15.8                                      | 16.6                                     | 16.3                | 17.8                                          |

Source: Authors' calculations from VHLSS 2004

Table 3.5 shows estimates for the effect of social security transfers on poverty headcount, taking each social security receipt in turn and then considering the joint effect of all five. Comparing the original national headcounts to the revised counts without any social security in subsequent columns shows that poverty would increase without social security in every case except short-term social insurance in work, but that most effect is from pensions. Other transfers have little impact in terms of percentage point rises in poverty rates. The aggregate effect however is a 4.6 percentage point increase in poverty if no social security transfers were received. The differential impact of social security on poverty appears highest in the North East Mountains and North Central Coast. Overall, the largest poverty reducing effect is due to pensions, followed by social welfare and health assistance, which have similar effects. Education assistance and in work social insurance benefits have very little poverty impact<sup>45</sup>.

Table 3.6 shows an equivalent calculation on the effect of receiving social security transfers on the depth of poverty for those that are poor. Here the impact of social security transfers is ambiguous; receipt of additional income will make those that remain poor after receiving the transfer less poor (so reducing the average depth of poverty); but it may take some others, probably less poor to begin with, above the poverty line (which may increase the depth of poverty). In fact social security receipts tend to reduce the depth of poverty, with the impacts being biggest for pensions and now social welfare payments.

<sup>45</sup> Once again, we have to repeat the warning we gave in Chapter 2, that pensions are primarily paid to a cohort of ex-public servants who had relatively high lifetime earnings and that, on retirement, should not perhaps be assumed to be poor in the absence of their social insurance pension - but any "counterfactual position" to reflect a different position without pension would involve effectively reversing the profile of lifetime earnings to include savings in the alternative and perhaps also altering their household position.

**Table 3.6: Estimated impact of social security payments on depth of poverty for those that are poor**

|                     | <b>shortfall of poor below poverty line (% of poverty line)</b> |                                    |                                 |                                           |                                          |                     |                                               |
|---------------------|-----------------------------------------------------------------|------------------------------------|---------------------------------|-------------------------------------------|------------------------------------------|---------------------|-----------------------------------------------|
|                     | Original                                                        | without<br>education<br>assistance | without<br>health<br>assistance | without<br>social<br>insurance<br>in work | without<br>social<br>welfare<br>payments | without<br>pensions | without<br>any social<br>security<br>payments |
| National            | 24.2                                                            | 24.6                               | 25.0                            | 24.2                                      | 25.4                                     | 25.5                | 27.8                                          |
| Urban               | 19.6                                                            | 20.5                               | 20.6                            | 19.6                                      | 21.1                                     | 21.4                | 24.9                                          |
| Rural               | 24.4                                                            | 24.8                               | 25.2                            | 24.5                                      | 25.7                                     | 25.7                | 28.0                                          |
| <b>region</b>       |                                                                 |                                    |                                 |                                           |                                          |                     |                                               |
| Red River Delta     | 17.4                                                            | 17.5                               | 18.8                            | 17.4                                      | 19.3                                     | 19.3                | 22.5                                          |
| North East          | 23.9                                                            | 24.3                               | 24.5                            | 23.9                                      | 24.7                                     | 25.4                | 27.4                                          |
| North West          | 32.6                                                            | 33.2                               | 33.0                            | 32.6                                      | 33.0                                     | 33.5                | 34.9                                          |
| North Central Coast | 25.4                                                            | 25.6                               | 26.2                            | 25.4                                      | 26.8                                     | 27.2                | 29.8                                          |
| South Central Coast | 26.8                                                            | 28.0                               | 27.7                            | 26.8                                      | 28.2                                     | 28.4                | 31.8                                          |
| Central Highlands   | 32.1                                                            | 32.8                               | 32.9                            | 32.1                                      | 33.3                                     | 33.3                | 35.9                                          |
| Southeast           | 22.4                                                            | 22.6                               | 23.1                            | 22.6                                      | 24.5                                     | 22.5                | 25.5                                          |
| Mekong Delta        | 18.9                                                            | 19.0                               | 19.5                            | 18.9                                      | 19.8                                     | 19.0                | 20.7                                          |

Source: Authors' calculations from VHLSS 2004

### 3.5 Modelling Poverty

What characteristics are associated with poverty? We use a series of regression models at household level to assess the characteristics associated with differing thresholds of poverty. Using several poverty thresholds ensures that results are not based on a single numeric poverty indicator and thus subject to measurement error such as rounding. This approach also allows us to see how characteristics are associated on differing levels of consumption around the poverty line. Table 3.7 shows these models for 50 percent of standard poverty line (including housing costs), the standard poverty line, 120 per cent of the standard poverty line to approximate being on the margins of poverty, and, finally, 200 percent of the standard poverty, which gives an indication of high poverty clearance and thus a low poverty risk.

As in previous chapters, the coefficients are a measure of the change in probability for each discrete change in value or status of the characteristics used in the model. Negative values mean a reduced risk of poverty and this means that Table 3.7 shows that the head of household being single, when compared to being married, is associated with a 16 percent reduced probability of poverty for consumption levels at poverty level and 120 and 200 per cent of poverty. Women are also less likely to be poor or to be 120 or 200 percent above the poverty line. Risk of poverty first reduces with increasing age of head of household but then becomes weakly positive in later years. Indeed, having elderly people and having children in the household is significantly associated with higher poverty risk at all the thresholds. Conversely, higher levels of education are negatively associated with poverty and this negative relationship increases monotonically as the poverty threshold rises, from a 3 percentage reduced risk of being 50 percent below the poverty line to a 28 percent reduced risk at twice the poverty threshold.

Ethnic minority status increases poverty risk by over 30 percent across all thresholds. Employment has a range of associations. A public sector worker in the household reduces poverty risk across all thresholds from poverty upwards. However, once education and public sector status are held constant, employment in waged work increases risk of poverty and employment in business or household trade reduces risk of poverty for consumption levels at poverty and above. These findings should be interpreted with household agricultural employment as the comparison omitted variable. Income from remittances into the household reduces poverty risk across all thresholds but with some forms of remittance and some thresholds non-significant.

The reduced risk of poverty in urban areas seen in Table 3.1 is confirmed across the models but readers are reminded that this finding is potentially very likely to be different if poverty consumption levels are recalculated to take out housings costs (see argument above). Regional differences in poverty risk remain across all thresholds and are constantly negative compared to the reference region of North Central Coast.

Table 3.7 : Regression Models on Probability of Household Poverty using Various Poverty Thresholds

Number of obs = 9188  
 Prob > chi2 = 0.0000  
 Log likelihood = -568.79261  
 Pseudo R2 = 0.2972

Number of obs = 9188  
 Prob > chi2 = 0.0000  
 Log likelihood = -3275.7092  
 Pseudo R2 = 0.2772

Number of obs = 9188  
 Prob > chi2 = 0.0000  
 Log likelihood = -4097.4562  
 Pseudo R2 = 0.2706

Number of obs = 9188  
 Prob > chi2 = 0.0000  
 Log likelihood = -4540.7952  
 Pseudo R2 = 0.2819

|                                               |          | Model 1<br>50% poverty  |         |              | Model 2<br>Poverty      |         |              | Model 3<br>Poverty +20% |         |              | Model 4<br>Poverty +100% |         |              |
|-----------------------------------------------|----------|-------------------------|---------|--------------|-------------------------|---------|--------------|-------------------------|---------|--------------|--------------------------|---------|--------------|
|                                               |          | Marginal<br>probability | std err | significance | Marginal<br>probability | std err | significance | Marginal<br>probability | std err | significance | Marginal<br>probability  | std err | significance |
| <b>Head of Household Characteristics</b>      |          |                         |         |              |                         |         |              |                         |         |              |                          |         |              |
| Marital Status (Omitted variable Married)     |          |                         |         |              |                         |         |              |                         |         |              |                          |         |              |
|                                               | single   | -0.003                  | 0.006   | 0.446        | -0.165                  | 0.041   | 0.000 ***    | -0.165                  | 0.048   | 0.000 ***    | -0.166                   | 0.048   | 0.001 ***    |
|                                               | divorced | 0.006                   | 0.012   | 0.453        | -0.045                  | 0.025   | 0.135        | -0.008                  | 0.049   | 0.866        | 0.022                    | 0.061   | 0.712        |
|                                               | widowed  | -0.002                  | 0.002   | 0.609        | -0.052                  | 0.020   | 0.027 **     | -0.055                  | 0.036   | 0.150        | -0.071                   | 0.047   | 0.145        |
| Female                                        |          | 0.002                   | 0.002   | 0.366        | -0.033                  | 0.012   | 0.011 **     | -0.057                  | 0.016   | 0.001 ***    | -0.098                   | 0.020   | 0.000 ***    |
| age                                           |          | 0.000                   | 0.000   | 0.207        | -0.005                  | 0.002   | 0.004 ***    | -0.008                  | 0.003   | 0.002 ***    | -0.013                   | 0.003   | 0.000 ***    |
| age2                                          |          | 0.000                   | 0.000   | 0.335        | 0.000                   | 0.000   | 0.010 ***    | 0.000                   | 0.000   | 0.011 **     | 0.000                    | 0.000   | 0.000 ***    |
| Post 2ndry education                          |          | -0.003                  | 0.001   | 0.083 *      | -0.096                  | 0.008   | 0.000 ***    | -0.164                  | 0.012   | 0.000 ***    | -0.277                   | 0.015   | 0.000 ***    |
| <b>Household characteristics</b>              |          |                         |         |              |                         |         |              |                         |         |              |                          |         |              |
| Ethnic Minority                               |          | 0.048                   | 0.010   | 0.000 ***    | 0.315                   | 0.022   | 0.000 ***    | 0.374                   | 0.022   | 0.000 ***    | 0.346                    | 0.021   | 0.000 ***    |
| Presence of worker in public sector           |          | -0.002                  | 0.002   | 0.379        | -0.078                  | 0.011   | 0.000 ***    | -0.130                  | 0.020   | 0.000 ***    | -0.144                   | 0.028   | 0.000 ***    |
| Presence of someone aged 60 and over          |          | 0.003                   | 0.002   | 0.028 **     | 0.039                   | 0.012   | 0.001 ***    | 0.063                   | 0.017   | 0.000 ***    | 0.056                    | 0.020   | 0.005 ***    |
| Presence of private wage earner               |          | 0.001                   | 0.001   | 0.258        | 0.054                   | 0.010   | 0.000 ***    | 0.076                   | 0.014   | 0.000 ***    | 0.107                    | 0.017   | 0.000 ***    |
| Presence of household trade                   |          | -0.002                  | 0.001   | 0.138        | -0.068                  | 0.008   | 0.000 ***    | -0.100                  | 0.012   | 0.000 ***    | -0.105                   | 0.016   | 0.000 ***    |
| Presence of under 16 year old                 |          | 0.002                   | 0.001   | 0.033 **     | 0.103                   | 0.007   | 0.000 ***    | 0.168                   | 0.010   | 0.000 ***    | 0.230                    | 0.014   | 0.000 ***    |
| Foreign remittance received                   |          | -0.002                  | 0.001   | 0.174        | -0.091                  | 0.010   | 0.000 ***    | -0.140                  | 0.018   | 0.000 ***    | -0.208                   | 0.025   | 0.000 ***    |
| Domestic remittance received                  |          | -0.003                  | 0.001   | 0.024 **     | -0.016                  | 0.011   | 0.151        | -0.030                  | 0.016   | 0.050 **     | -0.043                   | 0.019   | 0.025 ***    |
| <b>Locational characteristics</b>             |          |                         |         |              |                         |         |              |                         |         |              |                          |         |              |
| urban                                         |          | -0.004                  | 0.001   | 0.001 ***    | -0.109                  | 0.008   | 0.000 ***    | -0.199                  | 0.011   | 0.000 ***    | -0.293                   | 0.014   | 0.000 ***    |
| Region (omitted variable North Central Coast) |          |                         |         |              |                         |         |              |                         |         |              |                          |         |              |
| Red River Delta                               |          | -0.004                  | 0.001   | 0.001 ***    | -0.084                  | 0.009   | 0.000 ***    | -0.131                  | 0.014   | 0.000 ***    | -0.163                   | 0.021   | 0.000 ***    |
| North Eastern Mountain                        |          | -0.004                  | 0.001   | 0.000 ***    | -0.078                  | 0.009   | 0.000 ***    | -0.116                  | 0.015   | 0.000 ***    | -0.127                   | 0.024   | 0.000 ***    |
| North Western Mountain                        |          | -0.002                  | 0.001   | 0.026 **     | -0.037                  | 0.015   | 0.037 **     | -0.053                  | 0.027   | 0.074 *      | -0.057                   | 0.043   | 0.203        |
| South Central Coast                           |          | 0.002                   | 0.002   | 0.294        | -0.060                  | 0.010   | 0.000 ***    | -0.112                  | 0.016   | 0.000 ***    | -0.127                   | 0.025   | 0.000 ***    |
| Central Highlands                             |          | 0.000                   | 0.002   | 0.797        | -0.050                  | 0.012   | 0.001 ***    | -0.074                  | 0.020   | 0.001 ***    | -0.142                   | 0.029   | 0.000 ***    |
| South East                                    |          | -0.002                  | 0.001   | 0.044 **     | -0.128                  | 0.007   | 0.000 ***    | -0.234                  | 0.011   | 0.000 ***    | -0.380                   | 0.016   | 0.000 ***    |
| Mekong Delta                                  |          | -0.004                  | 0.001   | 0.002 ***    | -0.092                  | 0.008   | 0.000 ***    | -0.140                  | 0.014   | 0.000 ***    | -0.206                   | 0.020   | 0.000 ***    |

Source: Authors' calculations from VHLSS 2004

Notes: Significance at \*90%, \*\*95% and \*\*\*99%

### 3.6 Summary

This chapter replicated the World Bank poverty measures from 2004 using consumption data and then discussed some measurement issues before profiling poverty rates and poverty depth alongside social security receipt.

- Poverty measurement using consumption data is sensitive to the removal of housing costs and this significantly alters the differences between urban and rural headcounts and poverty gaps.
- Education assistance and social welfare receipts are highest among the poorest groups, and much lower among less poor groups. The reverse is the case for pensions which are received more by those in richer households and less among the poorest households. The most commonly received social security benefit is health assistance; with the numbers receiving this being uniform throughout the distribution.
- Nominal amounts of social transfers are highest for pensions followed by social welfare benefits and for almost all benefits the absolute amounts of benefit received by less poor households (per capita) are substantially greater - sometimes by a factor of ten - than those in the poorest households. The inequality in this respect is less marked in relation to education assistance compared to the other benefits.
- When social transfers are considered as a proportion of per capita consumption expenditure a more progressive pattern arises in many cases. Pensions; the largest proportion, are at least as high for the poorest households in comparison to the less poor. Social welfare payments are larger relative to consumption for those above the poverty line than for those below. Educational assistance is very small relative to consumption, but the relative benefits are greater for the poorest compared to those enjoying higher consumption levels.
- Analysis to show the impact of social transfers on poverty shows that poverty would increase without social security in every case except short-term social insurance in work. Most effect is from pensions. Other transfers have little impact in terms of percentage point rises in poverty rates. The aggregate effect however is a 4.6 percentage point increase in poverty if no social security transfers were received. However, these estimates make no attempt to calculate a counterfactual position that describes how underlying consumption would change without social transfers.
- A model to identify independent factors that are associated with poverty found that having elderly people and children in the household significantly increased risk across a wide set of poverty thresholds. Other factors that increased risk were ethnic minority status and waged employment. Factors associated with reduced risk were post-secondary education, receipt of remittances and household business and trade.

## 4. The Effects of Social Security

This chapter considers the effects of social security on households and individuals. Subsidies and transfers are designed by policy makers to affect behaviour in a variety of different ways - such as ensuring levels of consumption of particular services, such as education and health, or smoothing income over the lifetime or around economic shocks. A major concern for both UNDP and the Government of Viet Nam is whether provision leads to "unintended" secondary effects, for instance, where incentives to work or to save are affected by policy. At the individual and household level, subsidies and direct income transfers may potentially distort behaviour in a large number of ways. Not only economic behaviour, such as working and saving, but also social and demographic behaviour, for instance the timing, number and incidence of childbearing, household formation and co-residence. There is also the potential for macro-economic effects, on employment and wage levels, and changes in public expenditure may influence the level of transfers in the economy. There is thus a substantial research agenda posed by such concerns and this chapter will only address a partial and preliminary set of issues.

There are two fundamental problems to estimating the behavioural effects of social security - first, correctly identifying the theoretical basis for any behavioural change and second, isolating and measuring it. We discuss these problems in the first part of this chapter before going on in subsequent analysis to discuss and analyse the "effects" of social security on school enrolment, work, the giving and receipt of remittances and savings.

### 4.1 Second Order and Behavioural Effects

Chapter 2 briefly touched on the issue of behavioural effects but analysed incidence and receipt of transfers without discounting incomes to reflect the position that would have occurred without transfers, the implicit assumption being that behaviour did not change in response to social security provision. Similarly, Chapter 3 provided some estimates of the impact of income transfers on poverty without allowing for any behavioural effects.

There is a large literature of the behavioural effect of transfers in welfare economics but the vast majority of this is based on programmes in economies with predominantly formal employment, savings and other markets. The underlying principles from this literature hold across all economies, but in developing countries such as Viet Nam, where the majority of the population work outside of the formal labour market, where there are minimal financial markets for savings, annuities and where the whole informal sector is very strong (with remittances and gifts, inter-personal lending, and corruption being of particular importance), one has to be very careful about simply applying standard models of economic behaviour. While clearly economic incentives are important, as has been demonstrated through the successful market reforms since doi moi, economic reforms may also have an important knock on effect on both market and non-market behaviour. For instance, one major concern for social security provision is that payments to an individual may reduce their economic activity, because this exogenous increase in income means that they are now able to afford to work less. But, the consequences of transfers may differ where income is risky or lumpy (for instance in some household trade and agricultural production). In such cases receipt of an regular assured income source (social security) may help smooth variations in risk associated income sources and allow the individual to work harder and/or more productively overall.

The other main difficulty in applying standard economic models is that VHLSS data does not allow us to attach social transfers to individuals as they are recorded only at the household level. Even where we could identify individual entitlements and receipts, large and often multi-generational households in Viet Nam make simple assumptions about individual behaviour difficult because they are embedded in the household. Correctly identifying individual behavioural responses independent from the household rarely makes sense. For instance, paying a pension to a grandmother in a multi-generational household may mean that she shifts from economic activity to domestic activity and it may also mean that she takes on childcare responsibilities which allow the mother of the child to engage in increased economic activity.

An overarching problem then is to accurately formulate a "counterfactual" against which to measure behavioural effects. VHLSS survey data is already sorted and selected by a whole range of choices and behaviours, from which it is foolish to try and isolate those concerned with ex-post social transfer receipt; household formation, for example. We observe patterns of co-residence that may differ in the absence of

social security transfers - the elderly would more seldom live apart and this would be because their adult children set up their own separate households less often as well as the decision to live together after their retirement. Furthermore in VHLSS we do not observe household members who live away from home, nor do we observe the significant number of people who live outside of the sampling frame as unregistered migrants, in conscripted military service and other situations. These actions of these individuals, especially their incomes and remittances paid back to their original households will also affect behaviour in the observed households. When we add household composition to resource generation and sharing, defining a counterfactual becomes near impossible from a simple cross-section.

One approach that may help overcome the problems of specifying potential behavioural effects is to have two points of time - so that the observed behaviour only occurring at the second point of time can be linked back to the previous circumstances. This is potentially possible using the panel element of VHLSS data that links 2002 and 2004 respondents, but at the time of writing no longitudinal weights were available. Weighting is crucial because observed behaviour only occurs in sub-groups of the population and these groups (for instance, those staying on in school after primary school as discussed below in Section 4.2) are small and thus more subject to measurement and estimation error in the potential longitudinal sample. Attrition is also likely to be a substantial problem and longitudinal sample weighting is required to allow for this. We suggest this approach be seriously considered for future research.

Without a clear ability to isolate and identify a counterfactual it is very difficult to establish causation. The combination of conceptual problems and data and measurement difficulties outlined so far give rise to this problem. There is a danger of confusing association with causation, and the limitations imposed by these difficulties mean that our analysis will necessarily proceed by identifying associations and then carefully interpreting results against a range of potential causal factors. The difficulty of clear and distinct causation as opposed to association is mostly clearly demonstrated through examples. We have seen in Chapter 2 that poorer recipients of social security are mainly assisted with transfers that reflect incurred costs of education and health care. This makes analysis of potential behavioural effects tautologous - does the transfer affect up-take of school or healthcare if up-take determines eligibility for the transfer? This problem of separating cause and effect is more widely associated with health and income and consumption levels - are the poor more likely to be ill or are the ill poorer? The answer is that both are true but that the problem of endogeneity is a real obstacle to estimating health outcomes or healthcare use as a result of social security. Indeed, having looked at the VHLSS data and compared it with specific Vietnamese health surveys available in recent years, we have not attempted to estimate any health effects of social security using VHLSS data. This is another area of suggested future research.

Overall, our approach is therefore tentative and cautious. We approach each potential behavioural effect with a range of descriptive analysis that provides context and then estimate a model that can identify the receipt of social security as one of a number of associated factors that can explain it. One reason for our caution is the sensitivity of policy makers to arguments about unintended effects of public subsidies makes the issue one that should be given long and careful analysis. We therefore make some preliminary estimates but we are careful to call these second order effects, or even second order "associations", rather than true behavioural effects.

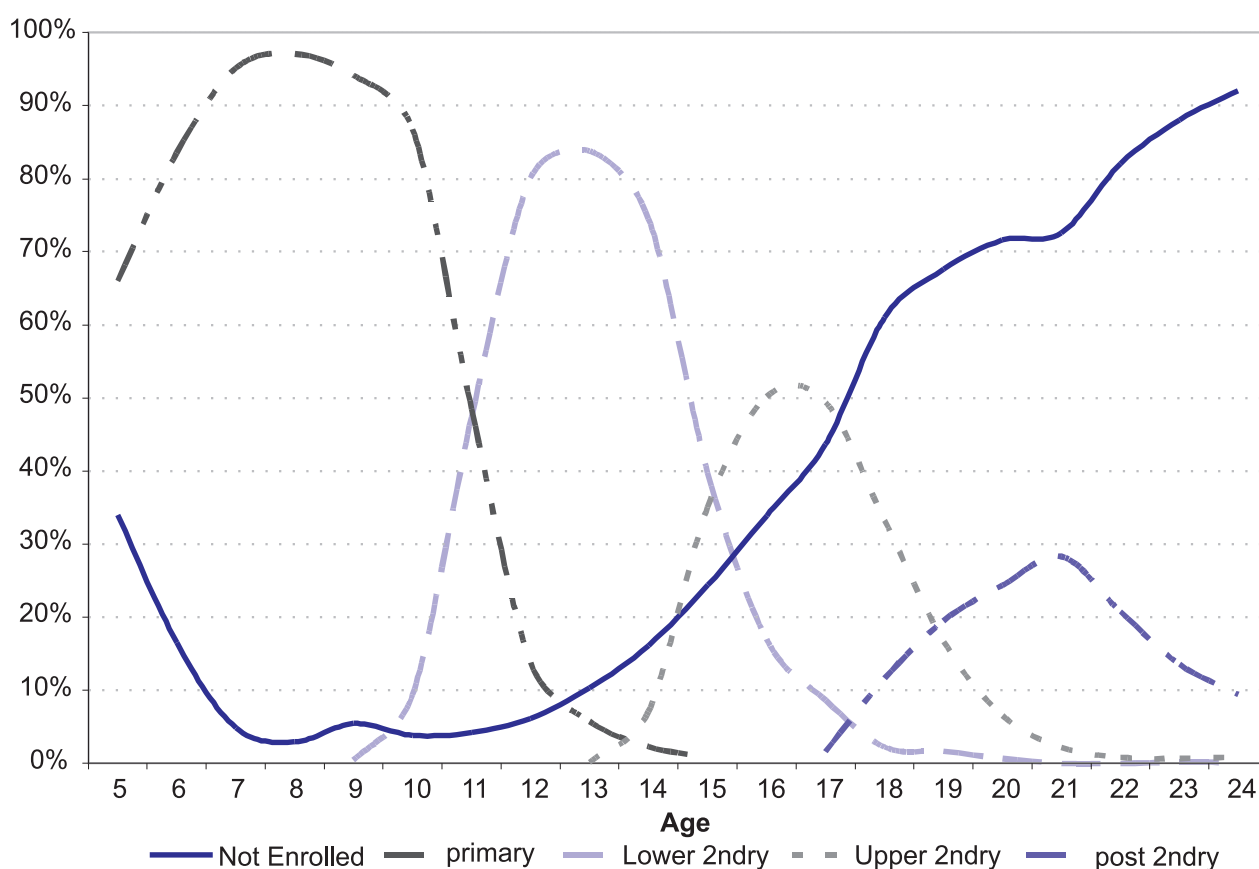
## 4.2 School Enrolment

Primary schooling in Viet Nam is compulsory and highly subsidised. Few have to pay tuition costs but the majority have to pay other charges and informal payments to providers. Education post-primary still attracts some subsidies, especially at lower secondary level but attendance at this and higher levels still has direct costs associated with it in the form of fees, charges and other costs of materials. However, it is important to realise that the costs of children attending school are not just direct costs but that there is also, especially for low income households, an "opportunity cost" that represents lost income to the household because the child is attending school. Part-time schooling reduces such costs, but it still means that both paid and unpaid work by children is less and this can be especially important in household production - business and trade and agricultural production.

To estimate the impact of social security on school enrolment we need to first more fully understand the relationship between enrolment, direct costs and income and opportunity costs.

### 4.2.1 Enrolment, Costs and Income

Figure 4.1: Enrolment and Non-enrolment in Education 5-24 year-olds



Source: Authors' calculations from VHLSS 2004

Figure 4.1 shows the rates of school enrolment by age by type of level of education. Compulsory primary school in Viet Nam has extremely high enrolment rates, 94 to 97 per cent for seven to nine year-olds as shown by the mauve broken line in Figure 1. As primary schooling is compulsory, the group of most interest for potential behavioural effects in response to social security is post-primary enrolment in lower and then upper secondary education. Figure 4.1 shows both a drop off in enrolment for lower secondary schooling but still high levels of enrolment, 83 per cent of 13 year olds at the highest point. But overall, enrolment for secondary education falls off up to the age of 16. After the age of 16 a minority of children continue in post-secondary education with enrolment peaking at the age of 21 at just under 30 per cent. Eighteen year old men who do not continue in education are conscripted into national military service.

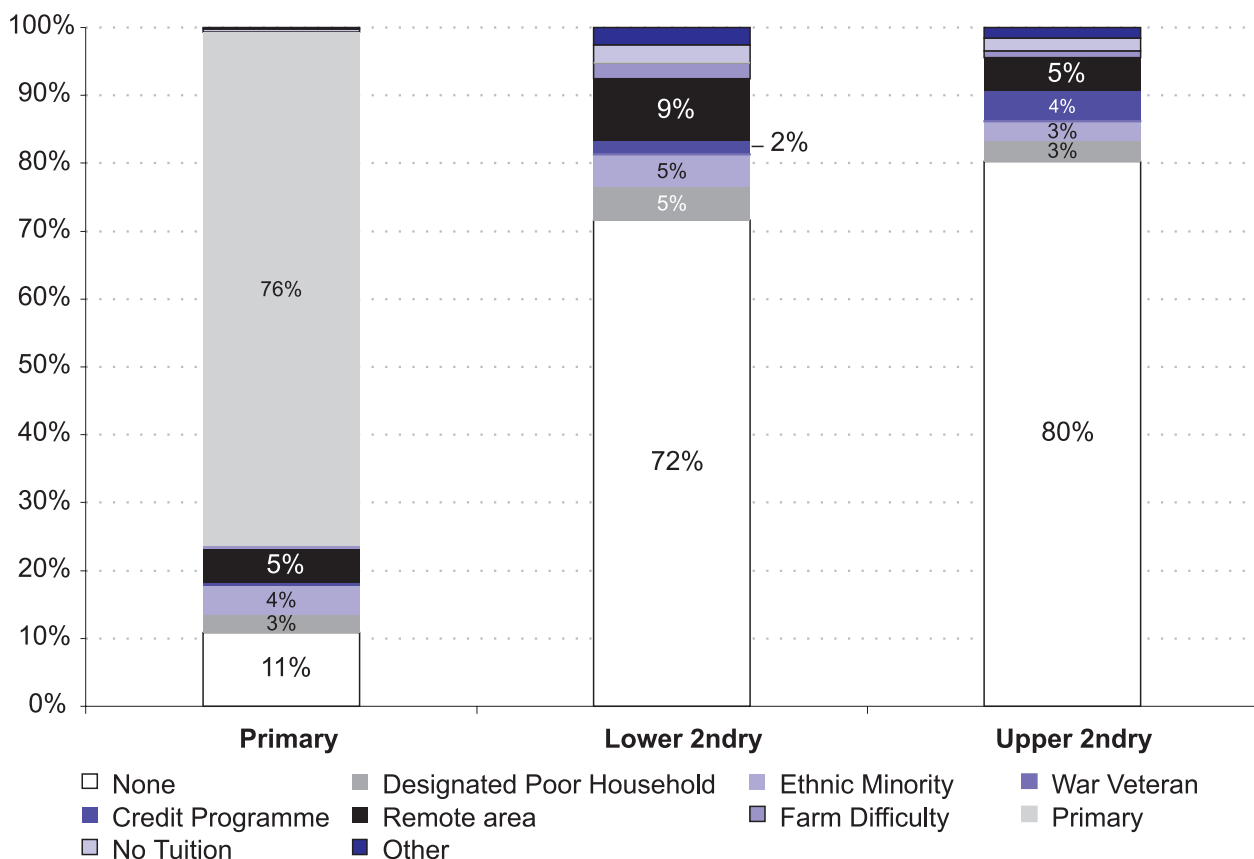
These patterns of enrolment of children are the outcomes of a large range of factors, including cultural and household preferences for education, income and consumption preferences more generally and the direct and indirect costs of having children enrolled in school. Chapter 2 has already discussed and analysed direct transfers through scholarships and other education-related payments into households, and has looked at the net effect of these once charges and expenditure is taken into account. However, there are in-kind subsidies to education that are operated at the local level that reduce or waive school fees that are not counted as "social security"<sup>46</sup> Figure 4.2 shows how many enrolled children report receiving these direct subsidies from discounted fees for primary and lower and upper secondary schools. Ninety per cent of all primary children

<sup>46</sup> The variables for these subsidies give percentage reductions of costs but the accompanying data on "gross costs" are too poor to calculate actual sums of subsidies awarded through this means.

receive subsidies and three-quarters (76 per cent) receive a general subsidy to primary education. The other main "targeted" subsidies are either area based subsidies to ethnic minority or remote areas or for poor households (designated poor by Commune). Lower secondary schooling is far less subsidised, only 28 per cent of pupils receive subsidies of which only 5 per cent are from designated poor households, 9 per cent from remote areas and 5 per cent from ethnic minority areas. Around 2 per cent of pupils receive subsidies linked to social loans from the HEPR credit programme in secondary education. The proportion of children subsidised at upper secondary falls further to 20 per cent, mostly from poverty, remote area and ethnic minority subsidies.

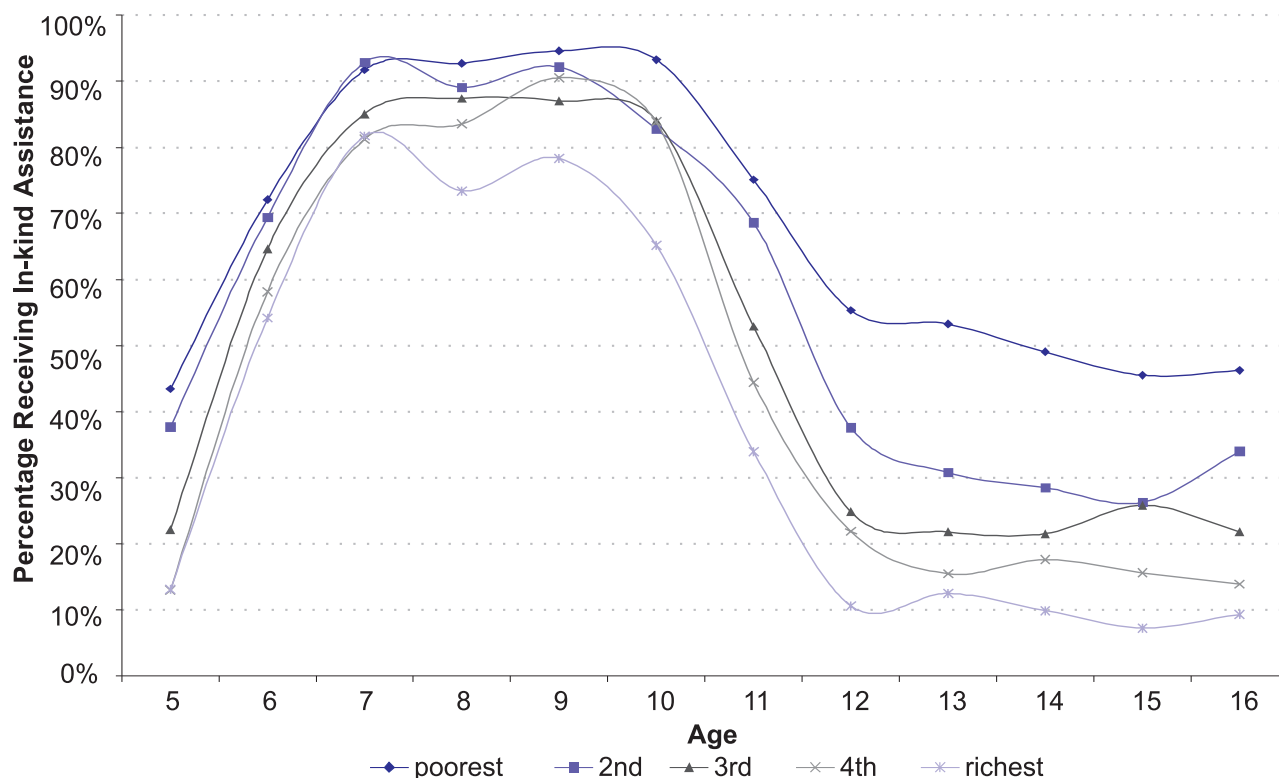
Figure 4.3 shows the proportion of enrolled children receiving indirect subsidies by age and by income quintile. It shows an overall progressive profile with higher percentages of poorer children receiving in-kind subsidies at any age. Figure 4.4 shows a similar profile for direct transfer-based education subsidies and similarly shows an overall progressive profile but with higher income quintiles having similar or higher levels of subsidies to poorer for older primary age children. Small sample sizes do not allow us to say that levels of transfers are significantly different at this point. For older children of secondary school age (11-16) progressivity is more easily discerned with poorer children receiving higher amounts of transfers on average.

**Figure 4.2: In-kind School Subsidies for School Population**



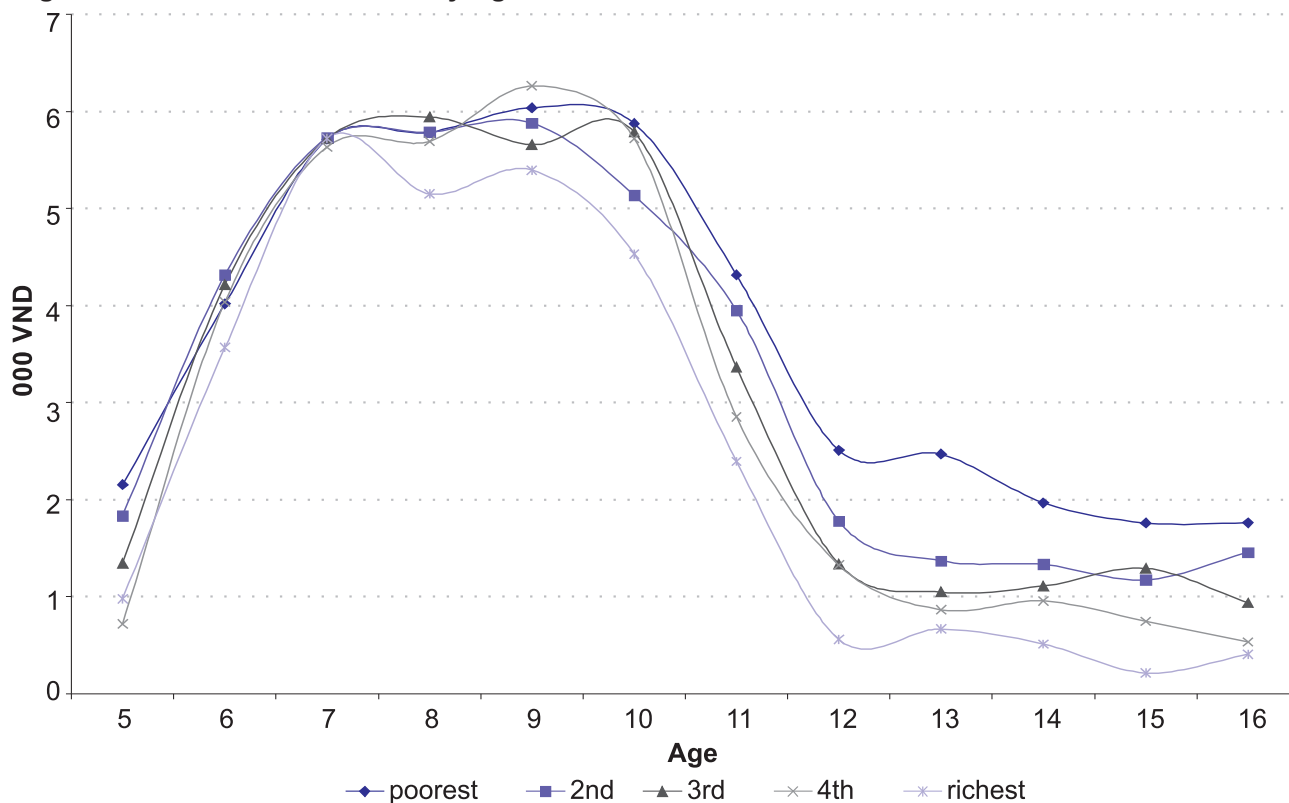
Source: Authors' calculations from VHLSS 2004

**Figure 4.3: Coverage of Enrolled Children by In-kind Education Subsidies by Age and Income Quintile**



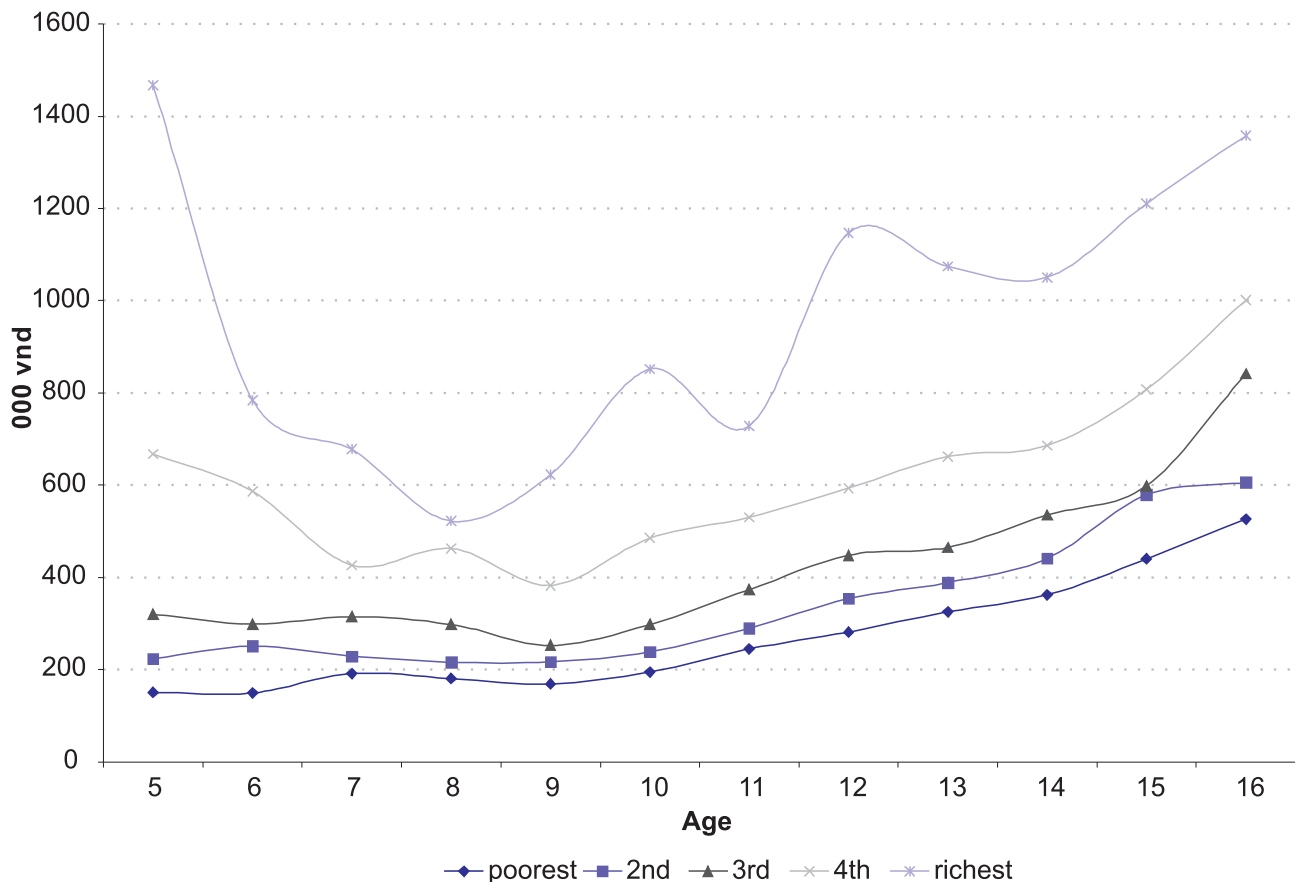
Source: Authors' calculations from VHLSS 2004

**Figure 4.4 : Education Transfers by Age of Child and Income Quintile**



Source: Authors' calculations from VHLSS 2004

Figure 4.5 : Spending on Education by Age and Income Quintile

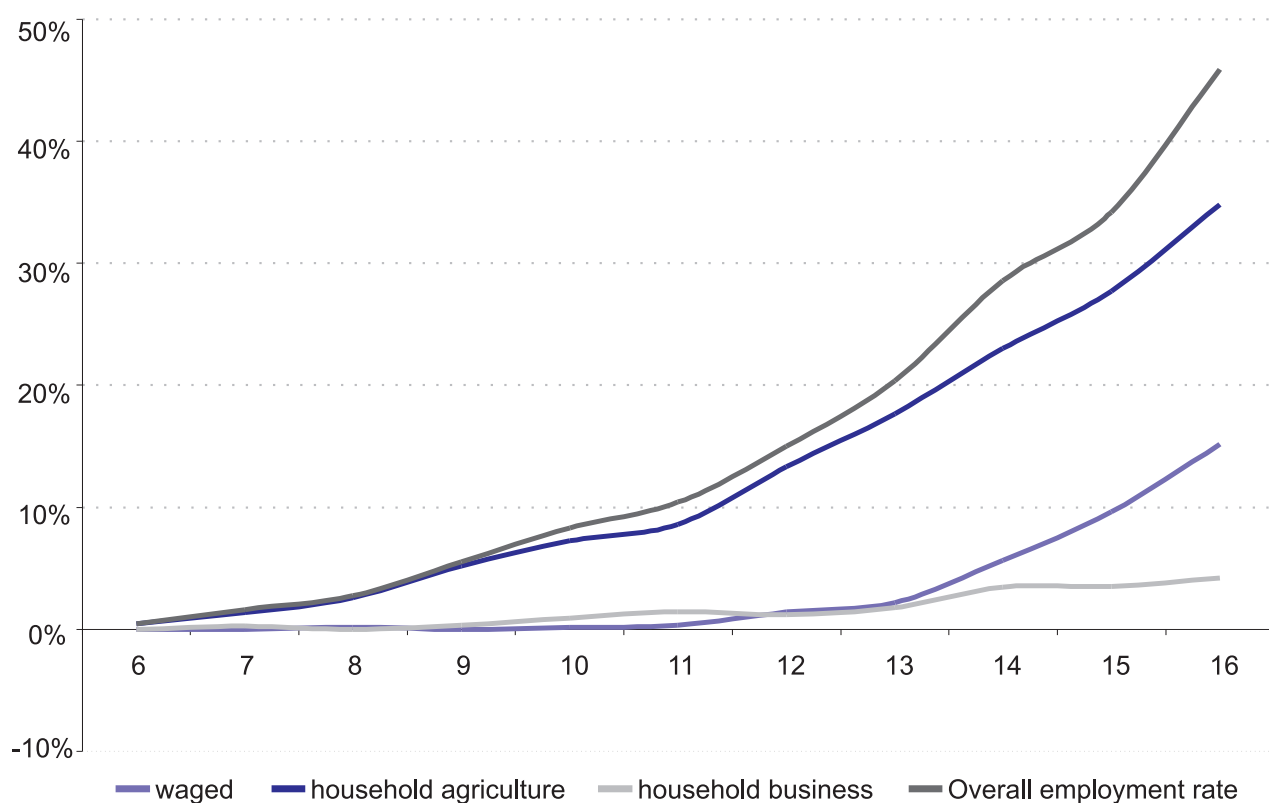


Source: Authors' calculations from VHLSS 2004

Data problems in VHLSS do not allow us to compute the value of in-kind subsidies. However, one of the clearest outcomes of these subsidies is reflected in the household spending on education costs and this is shown in Figure 4.5 by age of child and by income quintile. Once again, small sample sizes make the data lumpy when cut by age of child, but there is a clear ranking of spending by quintile and a clear slope upwards as children age (apart from the richest quintile where the profile is distorted by high private spending for some five year olds).

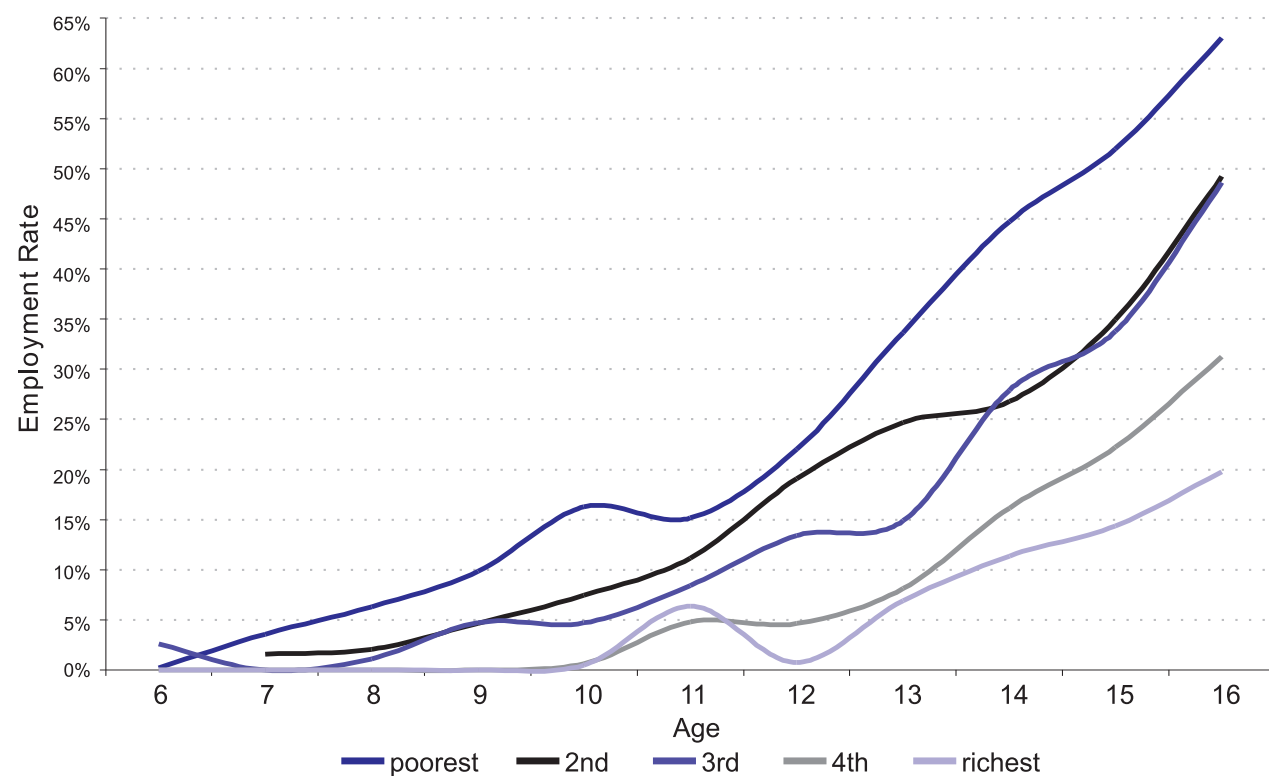
However, the direct costs of schooling and spending on education mask the actual costs to households of lost income from children when they attend school. School attendance, especially when compulsory, is not full time. As described in Chapter 1, most primary schools have morning "compulsory" attendance followed by afternoon and other classes that require payment. Figure 4.6 shows employment rates for children aged 6 to 16 - their overall employment rate (the dark grey line) clearly shows increased economic activity with 10 per cent of 11 year olds and 50 per cent of 16 year olds engaged in work of some kind. The overall employment rate is not the sum of the other lines because some individuals do more than one activity. Employment in household agricultural work rises from 5 per cent of 9 year olds to 20 per cent of 13 year olds and almost 40 per cent of 16 year olds. Waged work begins later at around the age of 13, and by age 16 over 30 per cent of children are working. Rates of employment in household trade and business are lower at 4 per cent of 16 year-olds.

**Figure 4.6 : Child Employment Rates by Age**



Source: Authors' calculations from VHLSS

**Figure 4.7 : Child Employment Rates by Quintile of Original Market Income and Age (6-16)**



Source: Authors' calculations from VHLSS

The opportunity costs of foregone children's work are highest for low income households who have a higher need for children to financially contribute to household resources. Figure 4.7 shows the difference in children's employment rates and age according to income quintiles (original market income OMI). Child employment is clearly both higher and begins at an earlier age for poorer families. At the age of 10 over 16 per cent of children in the poorest income quintiles are employed, compared to 7 per cent in the 2nd, 5 per cent for the 3rd, and virtually zero for the richest two quintiles. By the age of 16, 63 per cent of children in the poorest income quintile are employed but just 20 per cent from the richest quintile are working.

It is important at this point to note two things - first, that employment happens alongside education for some but replaces it for others. But this differs by age and income quintile - with poorer children not only working more and earlier but also far more likely to replace education with employment after primary school. The second point is that we should also take into account un-paid employment, particularly housework. How do profiles of employment and housework differ for those attending and not attending school after primary school?

Table 4.1 shows the profile of employment for 11 to 16 year olds who are either enrolled in school or not enrolled. Only 17 per cent of those enrolled in school also work, whereas 73 per cent of those not enrolled do so. When working and attending school there is a consequent effect on hours, with hours of work averaging 16 a week. The vast majority of this work is in household agricultural production. Additionally, those in school and working undertake almost six hours a week of unpaid household work. Both boys and girls undertake similar amounts of work.

**Table 4.1 : Employment of 11-16 year olds In and Out of School**

|                                     | Enrolled in school | Not Enrolled |
|-------------------------------------|--------------------|--------------|
| Total employment rate               | 16.9%              | 73.3%        |
| Area of Employment                  |                    |              |
| agriculture                         | 15.5%              | 50.1%        |
| waged employed                      | 1.1%               | 30.4%        |
| Household business                  | 1.6%               | 7.9%         |
| Average weekly hours of employment* | 16.2               | 37.9         |
| Average Weekly hours of housework   | 5.8                | 7.3          |

Source: Authors' calculations from VHLSS 2004

Notes \* average for those employed

Eleven to 16 year-olds not enrolled in school work have an overall employment rate of 73 per cent. One half of these children work in household agricultural production a further 30 per cent have waged work (informal and formal) while another eight per cent work in household business or trade. There is a considerable incidence of overlap as many children engage in more than one type of work (and hence the total does not sum to the total employment rate of 73 per cent). These non-enrolled children work on average a 38 hour week but also on average give a further seven hours of unpaid household work. The difference in employment patterns between those in school and those out of school give some indication of the opportunity costs of lost earnings and household work. But these are not equally distributed across the income distribution with heavy selection into employment among those with lower incomes and for agricultural households.

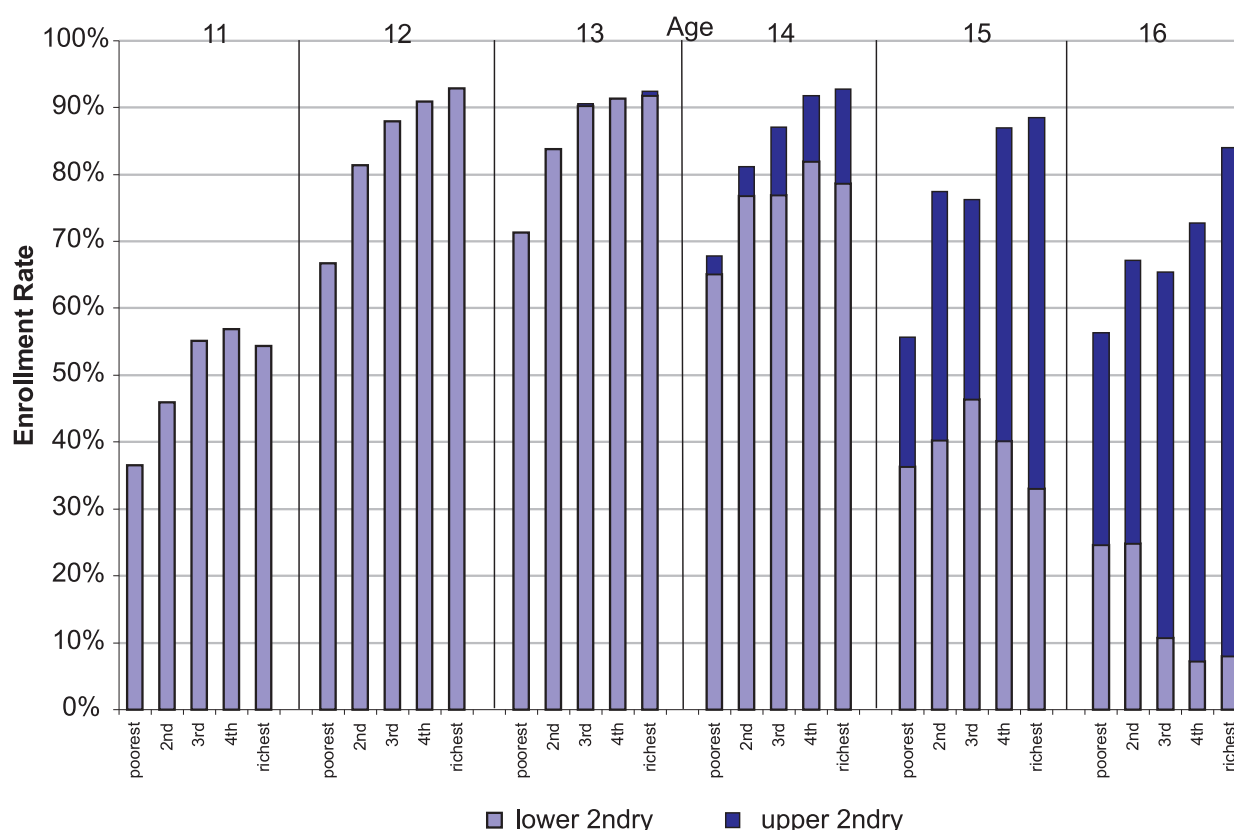
The overall effect of these direct and indirect costs gives rise to differential enrolment by household income in secondary education following compulsory primary enrolment. Figure 4.8 shows the quintile differences in secondary enrolment by age for 11 to 16 year olds. Enrolment overall shows a fairly clear gradient with income for each age group; however, lower secondary enrolment rates are explained in part by continued enrolment in primary school in the younger years, especially for the lower income quintiles. Enrolment in lower

secondary education between the ages of 12 to 14 is over 60 per cent across all income quintiles. Enrolment falls off at age 15 across all quintiles but the poorest quintile shows the largest fall and the smallest proportion continuing on to upper secondary education.

### 4.2.2 Social Security and Schooling

Now that we have described the patterns of school enrolment, their underlying costs and subsidies and the overall relationship with household income we are clear that income matters and has a clear relationship with enrolment rates. However, the key to any behavioural effect from social security is its independent effect as a source of income on enrolment.

**Figure 4.8 : Enrolment in Post-Primary Schooling for 11-16 year olds by Age and Income Quintile**



Source: Authors' calculations from VHLSS 2004

### 4.2.3 Modelling Social Security and Post-Primary Enrolment

Section 4.2.1 has given us a series of profiles that now enable us to better specify and interpret a regression model that looks at the probability of enrolment in post-primary education for 11 to 16 year olds, and the independent effect of social security on such enrolment.

With income being so clearly associated with higher enrolment it is sensible to hypothesise that additional income into the household from social security will increase the likelihood of school enrolment if all other factors are held constant. However, to test this we must limit our definition of social security to exclude transfers and scholarships that are directly related to attending school - in order to avoid the problem of endogeneity (transfers are only received if school is attended). We also know that health related transfers are hypothecated to cover costs of treatment and thus have little net impact on household welfare. Obviously, there is higher likelihood of spending on education in households facing health charges if these health costs are covered by transfers than if not, but we still choose to drop health transfers from our definition to look only at general non-specific transfers: these are social insurance payments for maternity and sickness (paid to those in work but absent), social insurance pensions and social welfare payments.

We use a probit regression model to provide estimates of the marginal probability of enrolment; treating enrolment as a simple two-value string variable where 1 is enrolment and 0 is non-enrolment. We can not identify levels of attendance. Table 4.2 shows the results from the probit regression model. We focus on the findings on relating household social security receipt to enrolment. Household receipt of social insurance pensions is seen to have no significant effect on enrolment. This can be interpreted as an outcome which mainly affects households spanning three-generations, where grandparents and school-age children co-reside. The probit model also shows that the presence of a person aged over 60 in the household increases the overall probability of enrolment by around six percentage points. This means that an unambiguous interpretation of a "zero effect" is difficult because payment of pensions may also encourage elderly people to co-reside and increase longevity. Overall, however it is safe to assume that there is no evidence of a direct income effect from pensions. Social welfare payments into the household are associated with a six per cent increase in probability of enrolment. Interpretation of this effect should take into account that there may be unobserved characteristics associated with households that receive social welfare payments - such as political status. In-work social security, primarily for maternity and sickness, is seen to be associated with a reduced probability of enrolment. This is difficult to interpret as we know that numbers of recipients are small overall but suggests that the underlying event of maternity or sickness does have an effect on enrolment that is not compensated for through provision of the transfer. This may be pressure on the 11-16 year old to help with either or both household work and household income resources.

**Table 4.2 : Probability of Enrolment in Post-Primary Education for 11-16 year olds**

Number of obs = 6245

Pseudo R2 = 0.2195

|                                                                          |           | Marginal<br>Probability | Robust Standard<br>Errors | Significance |
|--------------------------------------------------------------------------|-----------|-------------------------|---------------------------|--------------|
| <b>Individual Characteristics</b>                                        |           |                         |                           |              |
| Age(11 year old omitted)                                                 |           |                         |                           |              |
|                                                                          | 12        | -0.039                  | 0.025                     | 0.093 *      |
|                                                                          | 13        | -0.134                  | 0.029                     | 0.000 ***    |
|                                                                          | 14        | -0.229                  | 0.031                     | 0.000 ***    |
|                                                                          | 15        | -0.344                  | 0.034                     | 0.000 ***    |
|                                                                          | 16        | -0.501                  | 0.036                     | 0.000 ***    |
| <b>Household Characteristics</b>                                         |           |                         |                           |              |
| Highest Education Reached by Member of Household (omitted variable none) |           |                         |                           |              |
|                                                                          | Primary   | 0.041                   | 0.024                     | 0.141        |
|                                                                          | Secondary | 0.083                   | 0.030                     | 0.006 ***    |
|                                                                          | Tertiary  | 0.151                   | 0.025                     | 0.000 ***    |
| Ethnic Minority                                                          |           | -0.015                  | 0.009                     | 0.082 *      |
| Share of household income from Business & Trade                          |           | 0.003                   | 0.016                     | 0.852        |
| Share of household income from Agriculture                               |           | 0.010                   | 0.066                     | 0.885        |
| Share of household income from Waged Employment                          |           | -0.023                  | 0.066                     | 0.723        |
| Number of non workers in household                                       |           | -0.068                  | 0.010                     | 0.000 ***    |
| Number of children under 16 in household                                 |           | -0.023                  | 0.005                     | 0.000 ***    |
| Presence of person aged 60 and over                                      |           | 0.060                   | 0.012                     | 0.000 ***    |
| In-work social security payment                                          |           | -0.122                  | 0.068                     | 0.076 *      |
| Social Welfare                                                           |           | 0.064                   | 0.022                     | 0.051 *      |
| Contributory Social Insurance Pension                                    |           | 0.013                   | 0.015                     | 0.430        |
| Remittance received                                                      |           | 0.068                   | 0.014                     | 0.001 ***    |
| Quintile of Original Market Income (omitted variable - poorest quintile) |           |                         |                           |              |
|                                                                          | 2nd       | 0.009                   | 0.013                     | 0.522        |
|                                                                          | 3rd       | 0.016                   | 0.013                     | 0.251        |
|                                                                          | 4th       | 0.044                   | 0.014                     | 0.004 ***    |
|                                                                          | Richest   | 0.052                   | 0.017                     | 0.012 ***    |

### Locational Characteristics

|                                                 |        |       |       |     |
|-------------------------------------------------|--------|-------|-------|-----|
| Urban                                           | 0.023  | 0.014 | 0.121 |     |
| Region - (omitted variable North Central Coast) |        |       |       |     |
| Red River Delta                                 | 0.054  | 0.018 | 0.012 | **  |
| North Eastern Mountain                          | 0.055  | 0.015 | 0.003 | *** |
| North Western Mountain                          | 0.038  | 0.020 | 0.085 | *   |
| South Central Coast                             | 0.060  | 0.016 | 0.004 | *** |
| Central Highlands                               | 0.021  | 0.023 | 0.397 |     |
| South East                                      | 0.004  | 0.025 | 0.874 |     |
| Mekong Delta                                    | -0.032 | 0.026 | 0.182 |     |

Source: Authors' calculations from VHLSS 2004

Notes: Probit regression model with marginal effects - robust standard errors adjusted for household level characteristics

Significance \* >90%, \*\* >95%, \*\*\* >99%

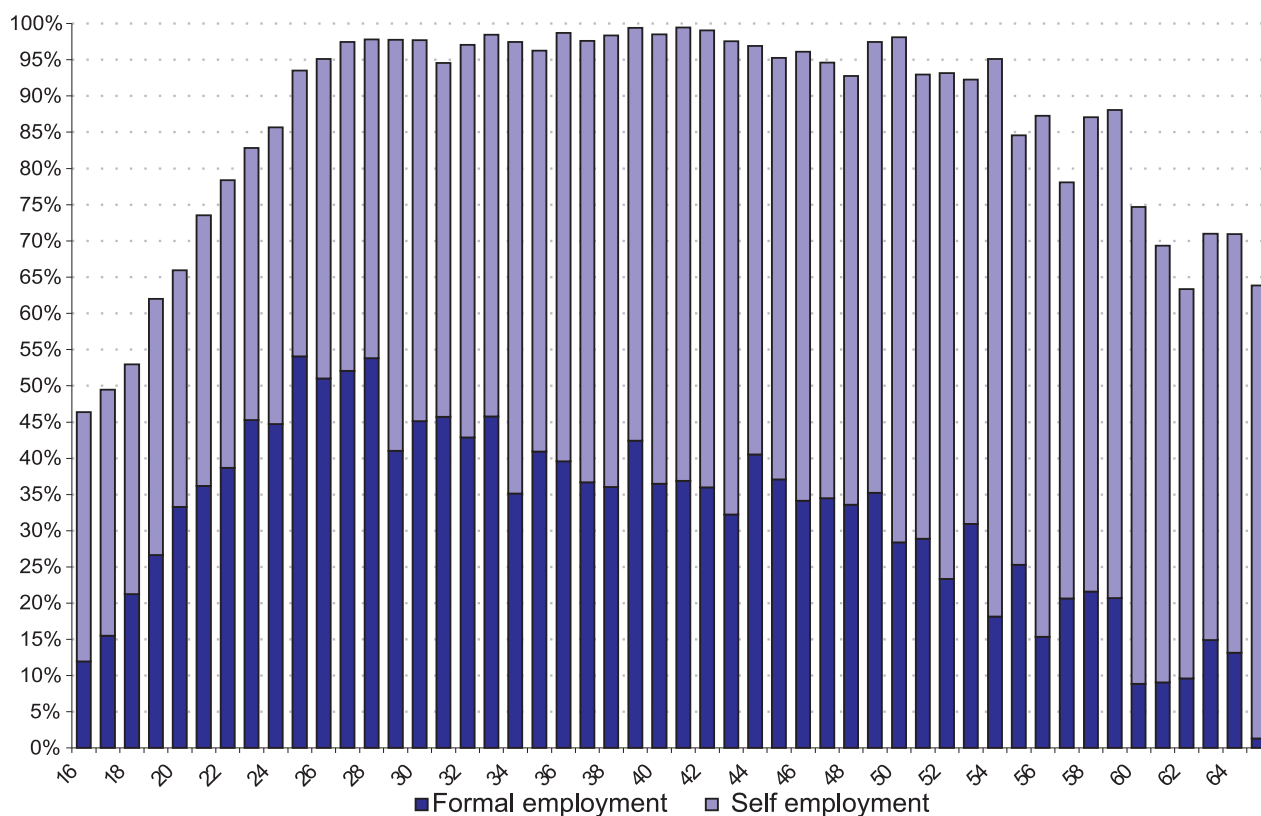
These results suggest that there are second-order effects of social security on enrolment but that they are mixed and secondary to underlying clear associations with income - where the richest two quintiles have clear increased probabilities of enrolment.

### 4.3 Social Security and Work

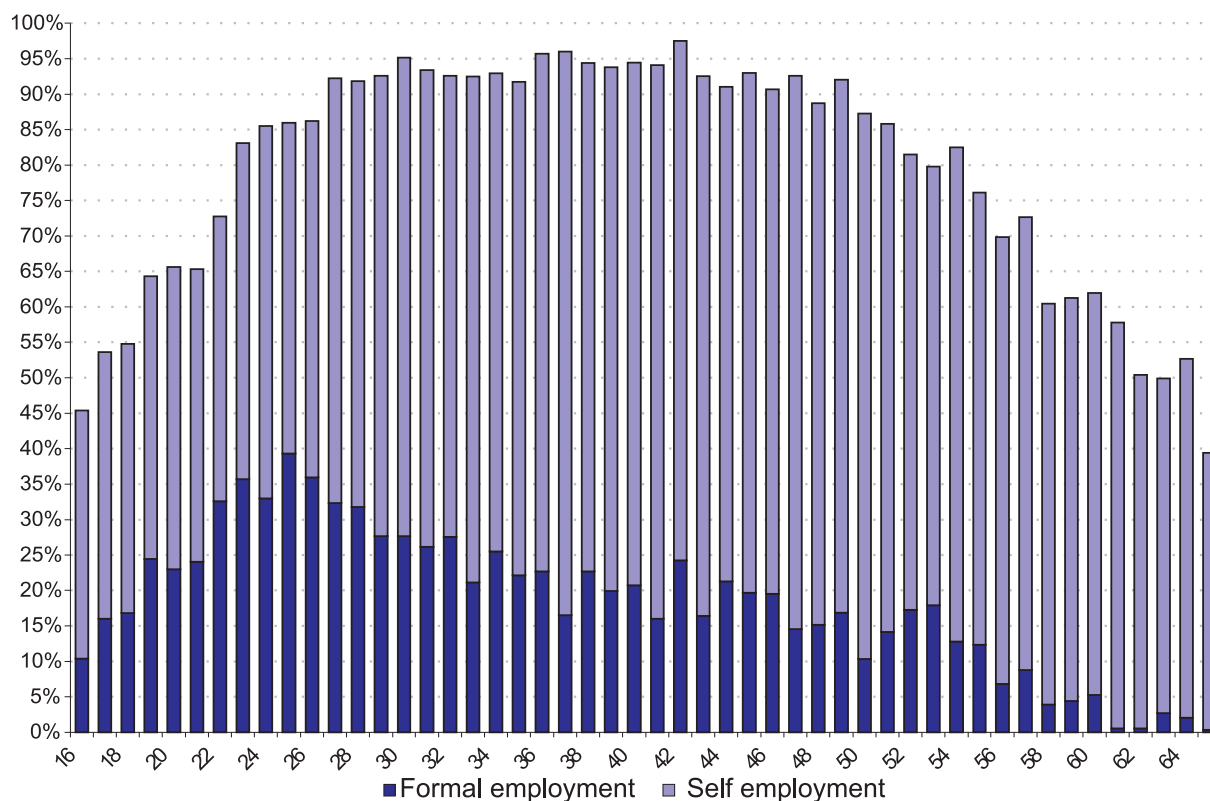
What effects does the payment of social security into a household have on work? We have already considered children's employment in discussion of enrolment in school education and we therefore limit our discussion and analysis to those of primary working age. This means that we also do not discuss continued economic activity for older people aged 60 and above. To do so would heavily bias results because the majority of social security paid to these people is for "retirement". This does not mean that all pensioners stop working, a matter that we discuss elsewhere in the companion paper on the elderly (Evans et al 2007). However, our primary concern for a potential behavioural effect is to assess how far payment of retirement pension into a household can be seen to affect the employment of other members of the household of working age, not whether planned contributory retirement pensions coincide with de-facto retirement from formal employment.

Employment in Viet Nam covers a large range of formal and informal activity - from working alongside other members of the household on agricultural production, which could be for home consumption and not for market, through to informal employment or self-employment in a trade or business, such as street trading, working for a more formalised business as self employed or as a waged "employee". We use the term economic activity to include a wide spectrum of activity and by doing so follow the VHLSS conventions. Data in VHLSS allows us to crudely split economic activity into formal employment (working as an employee for an employer) and self employment of various kinds (household agricultural production, business and trade, working as "self employed" for another person or business). Employment and self-employment rates for men and women are shown in Figures 4.9 and 4.10 respectively. Male economic activity rates are over 95 per cent for those aged between 27 to 55. Formal employment peaks between the ages of 27 and 30, at between 50 and 55 per cent. Male formal employment falls to 20 per cent at age 60 and then falls off rapidly due to retirement at the formal pension age of 60. Female economic activity rates are only slightly lower than those for men at over 90 per cent between the ages of 27 and 50. Formal employment rises during the late teens and 20s to peak at 39 per cent at age 28 and then slowly declining over time. There is a less noticeable drop off in formal employment around the female pension age of 55 - from 17 per cent at ages 53 and 54 to 12 per cent at 55 and 56 and then falling to under 5 per cent from the age of 59.

In the cross-sectional VHLSS survey we are unable to distinguish between lifetime, cohort or period effects, the higher rate of formal employment for younger men and women may simply reflect factory work that has grown since doi moi for this group. Similarly as both men and women age, we can see that the balance between formal and self-employed employment changes but we are unable to say how much this is the result of generational effects (with the better educated younger cohort being more likely to work in formal employment), or people changing status as they age.

**Figure 4.9 : Economic Activity Men 16-65**


Source: Authors' calculations from VHLSS 2004

**Figure 4.10 : Economic Activity Women 16-65**


Source: Authors' calculations from VHLSS 2004

Similarly, for those who retire from formal work and obtain a pension there is no ability to distinguish between those that carry on working as self-employed. These uncertainties mean that it is best to define our "working age" population as being younger than pension age (55 for women and 60 for men).

How does the receipt of social security into a household affect whether a working age person is economically active. We see from Figures 4.9 and 4.10 that economic rates are very high - over 90 per cent over the majority of working age - and thus any effect of social security on work is most likely to occur at the beginning or end of individuals working life.

Table 4.3 shows the results of probit regression models, for men and women of working and pre-pension age, which estimate the probability of being economically active (either employed or self-employed). We focus on the results for social security transfers which, as previously discussed in modelling school enrolment, we have specified as general transfers rather than specific education or health related transfers. For this analysis we have also dropped the in-work social insurance benefits for maternity and sickness to avoid ambiguity in the definition of economically active while sick, pregnant or looking after new-born children. For men we see that social security pensions received into the household have a small but significant negative effect on economic activity, reducing the probability by around 0.06 per cent. This effect may be linked to differential retirement ages for women, which when a female married partner reaches retirement age at 55 may affect the work or retirement position of some men. For women, we observe a small but significant effect of Social Welfare payments, which increases the probability of economic activity by around 2.6 per cent.

Interpretation of these results is difficult because of the difference between formal employment, which gives rise to contributory social insurance, and other forms of economic activity. To more clearly estimate the association of social security we split employment in two - "self employment", which includes agricultural, business and trade and "waged employment" - where there is a reported wage, whether this is under a formal employment contract or not. Table 4.4 shows the same form of regression for only self-employed, non waged men and women workers. This shows that Social Security pensions are associated with a small but significant increase in the probability, around 2.3 per cent, of women working in non-waged work but no effects for social welfare payments or at all for men.

Table 4.5 shows the same regression results for male and female waged employment and shows that social security pension are associated with a small but significant reduced probability of work, of around four per cent. However, for women, payment of social security pensions into the household is associated with a five per cent increased probability of waged work. The result for men probably reflects the joint retirement decisions discussed previously but the result for women is notable and especially so because the result is replicated for social welfare payments, which are also associated with an increased probability of work of around five to six per cent.

Work and employment should not just be considered as a single "one-off" status with individuals either working or not working. One of the most crucial differences in employment patterns is the hours of work and these differences are often gender related with women more often working part-time. Figures 4.11 and 4.12 show the distribution of hours of work by age and by type of employment for men and women respectively. Men's hours of paid work rise and then fall over their working lives, with peak hours of 33 hours a week for waged work between the ages of 26 to 30 and of 36 hours a week between the ages of 36-40 for agricultural work. Hours in trade and business fluctuate less over the working life but rise to an average of 15 hours a week in the early 30s and then decline less quickly than other forms of work. Men's unpaid housework slowly rises from five to around 8 hours a week with age and corresponds with the decline in hours spent in work. Women do more unpaid housework, rising to 16 hours a week by the late 20s and remaining fairly constant from that point. Women also do more hours of business and trade than men consistently over the working life but hours of agricultural work are fewer, rising to a peak of 30 hours a week in the late 30s. Women's hours in waged employment are less than men's and peak at 20 hours a week in the late 30s.

Table 4.3 : Regression on Whether Individual is economically Active

**Men 16-59 not in education**

Number of obs = 9343

Wald chi2(24) = 405.26

Prob &gt; chi2 = 0.0000

Pseudo R2 = 0.2579

**Women 16-54 not in education**

Number of obs = 9098

Wald chi2(24) = 573.88

Prob &gt; chi2 = 0.0000

Pseudo R2 = 0.1538

|                                               | Men                  |                        |              | Women                |                        |              |
|-----------------------------------------------|----------------------|------------------------|--------------|----------------------|------------------------|--------------|
|                                               | marginal probability | Robust Standard Errors | Significance | marginal probability | Robust Standard Errors | Significance |
| <b>Individual Characteristics</b>             |                      |                        |              |                      |                        |              |
| Marital Status (omitted variable married)     |                      |                        |              |                      |                        |              |
| single                                        | 0.036                | 0.010                  | 0.000***     | -0.037               | 0.007                  | 0.000***     |
| divorced                                      | 0.010                | 0.002                  | 0.112        | -0.080               | 0.040                  | 0.009***     |
| widowed                                       | 0.002                | 0.010                  | 0.879        | -0.022               | 0.024                  | 0.298        |
| Ill in past 52 weeks                          | -0.003               | 0.002                  | 0.162        | 0.013                | 0.006                  | 0.023**      |
| age                                           | 0.017                | 0.003                  | 0.000***     | 0.000                | 0.000                  | 0.349        |
| age2                                          | 0.000                | 0.000                  | 0.000***     | 0.000                | 0.000                  | 0.722        |
| age3                                          | 0.000                | 0.000                  | 0.000***     | -0.026               | 0.008                  | 0.000***     |
| Post 2ndry education                          | -0.015               | 0.003                  | 0.000***     | 0.034                | 0.007                  | 0.000***     |
| <b>Household Characteristics</b>              |                      |                        |              |                      |                        |              |
| Ethnic Minority                               | 0.004                | 0.003                  | 0.302        | 0.034                | 0.007                  | 0.000***     |
| Presences of someone over 60                  | -0.008               | 0.003                  | 0.002***     | 0.002                | 0.006                  | 0.777        |
| Number of children in household               | 0.001                | 0.001                  | 0.280        | 0.001                | 0.003                  | 0.674        |
| Contributory Social Insurance Pension         | -0.006               | 0.003                  | 0.028**      | -0.007               | 0.010                  | 0.508        |
| Social Welfare                                | -0.001               | 0.004                  | 0.673        | 0.026                | 0.008                  | 0.011**      |
| Remittance                                    | 0.001                | 0.003                  | 0.804        | -0.007               | 0.008                  | 0.372        |
| Others in self-employment*                    | 0.002                | 0.003                  | 0.374        | 0.022                | 0.008                  | 0.004***     |
| Others in formal employment                   | -0.001               | 0.002                  | 0.655        | 0.014                | 0.006                  | 0.031**      |
| <b>Locational Characteristics</b>             |                      |                        |              |                      |                        |              |
| Urban                                         | -0.020               | 0.004                  | 0.000***     | -0.053               | 0.009                  | 0.000***     |
| Region (omitted variable North Central Coast) |                      |                        |              |                      |                        |              |
| Red River Delta                               | 0.005                | 0.002                  | 0.064*       | 0.012                | 0.012                  | 0.306        |
| North Eastern Mountain                        | 0.007                | 0.002                  | 0.008***     | 0.001                | 0.013                  | 0.964        |
| North Western Mountain                        | 0.002                | 0.006                  | 0.752        | 0.039                | 0.012                  | 0.037**      |
| South Central Coast                           | 0.003                | 0.003                  | 0.441        | -0.062               | 0.022                  | 0.000***     |
| Central Highlands                             | 0.008                | 0.003                  | 0.037**      | -0.009               | 0.019                  | 0.638        |
| South East                                    | -0.003               | 0.004                  | 0.385        | -0.099               | 0.022                  | 0.000***     |
| Mekong Delta                                  | 0.009                | 0.002                  | 0.002***     | -0.144               | 0.022                  | 0.000***     |

Source: Authors' calculations from VHLSS 2004

Notes: Probit regression model with marginal effects - robust standard errors adjusted for household level characteristics

Significance \*&gt;90%, \*\*&gt;95%, \*\*\*&gt;99%

**Table 4.4 : Regression on Men's and Women's Self-employed Economic Activity**

**Model 1**

Number of obs = 9343

Wald chi2(24) = 1821.85

Prob > chi2 = 0.0000

Pseudo R2 = 0.2344

**Model 2**

Number of obs = 9098

Wald chi2(24) = 1616.59

Prob > chi2 = 0.0000

Pseudo R2 = 0.2835

|                                               | Men                  |                        |              | Women                |                        |              |
|-----------------------------------------------|----------------------|------------------------|--------------|----------------------|------------------------|--------------|
|                                               | marginal probability | Robust Standard Errors | Significance | marginal probability | Robust Standard Errors | Significance |
| <b>Individual Characteristics</b>             |                      |                        |              |                      |                        |              |
| Marital Status (omitted variable married)     |                      |                        |              |                      |                        |              |
| single                                        | 0.135                | 0.023                  | 0.000 ***    | 0.119                | 0.023                  | 0.000 ***    |
| divorced                                      | 0.103                | 0.066                  | 0.139        | 0.039                | 0.048                  | 0.429        |
| widowed                                       | 0.142                | 0.069                  | 0.058 *      | 0.108                | 0.033                  | 0.005 ***    |
| Ill in past 52 weeks                          | 0.012                | 0.014                  | 0.409        | 0.009                | 0.014                  | 0.525        |
| age                                           | -0.033               | 0.019                  | 0.073 *      | -0.029               | 0.023                  | 0.210        |
| age2                                          | 0.001                | 0.001                  | 0.084        | 0.001                | 0.001                  | 0.033 **     |
| age3                                          | 0.000                | 0.000                  | 0.196        | 0.000                | 0.000                  | 0.008 ***    |
| Post 2ndry education                          | -0.181               | 0.016                  | 0.000 ***    | -0.312               | 0.019                  | 0.000 ***    |
| <b>Household Characteristics</b>              |                      |                        |              |                      |                        |              |
| Ethnic Minority                               | 0.147                | 0.022                  | 0.000 ***    | 0.041                | 0.023                  | 0.080 *      |
| Presences of someone over 60                  | 0.004                | 0.016                  | 0.788        | -0.013               | 0.016                  | 0.430        |
| Number of children in household               | 0.004                | 0.006                  | 0.516        | 0.001                | 0.007                  | 0.889        |
| Contributory Social Insurance Pension         | 0.017                | 0.024                  | 0.465        | -0.073               | 0.023                  | 0.001 ***    |
| Social Welfare                                | -0.025               | 0.024                  | 0.305        | -0.022               | 0.024                  | 0.341        |
| Remittance                                    | -0.011               | 0.018                  | 0.538        | 0.003                | 0.018                  | 0.878        |
| Other self employed in household              | 0.280                | 0.020                  | 0.000 ***    | 0.194                | 0.020                  | 0.000 ***    |
| Others waged in household                     | -0.288               | 0.016                  | 0.000 ***    | -0.192               | 0.017                  | 0.000 ***    |
| <b>Locational Characteristics</b>             |                      |                        |              |                      |                        |              |
| Urban                                         | -0.125               | 0.017                  | 0.000 ***    | -0.123               | 0.017                  | 0.000 ***    |
| Region (omitted variable North Central Coast) |                      |                        |              |                      |                        |              |
| Red River Delta                               | -0.078               | 0.024                  | 0.001 ***    | -0.110               | 0.025                  | 0.000 ***    |
| North Eastern Mountain                        | 0.066                | 0.026                  | 0.013 **     | -0.032               | 0.027                  | 0.228        |
| North Western Mountain                        | 0.090                | 0.039                  | 0.026 **     | 0.047                | 0.040                  | 0.260        |
| South Central Coast                           | -0.027               | 0.028                  | 0.333        | -0.216               | 0.032                  | 0.000 ***    |
| Central Highlands                             | 0.078                | 0.033                  | 0.020 **     | -0.120               | 0.042                  | 0.003 ***    |
| South East                                    | 0.002                | 0.027                  | 0.934        | -0.354               | 0.030                  | 0.000 ***    |
| Mekong Delta                                  | 0.061                | 0.023                  | 0.010        | -0.362               | 0.025                  | 0.000 ***    |

Source: Authors' calculations from VHLSS 2004

Notes: Probit regression model with marginal effects - robust standard errors adjusted for household level characteristics

Significance \* > 90%, \*\* > 95%, \*\*\* > 99%

Table 4.5 : Regression on Men's and Women's Waged Economic Activity

**Men waged employment**

Number of obs = 9343

Wald chi2(24) = 1574.07

Prob &gt; chi2 = 0.0000

Pseudo R2 = 0.1961

**Women waged employment**

Number of obs = 9098

Wald chi2(24) = 1376.60

Prob &gt; chi2 = 0.0000

Pseudo R2 = 0.2548

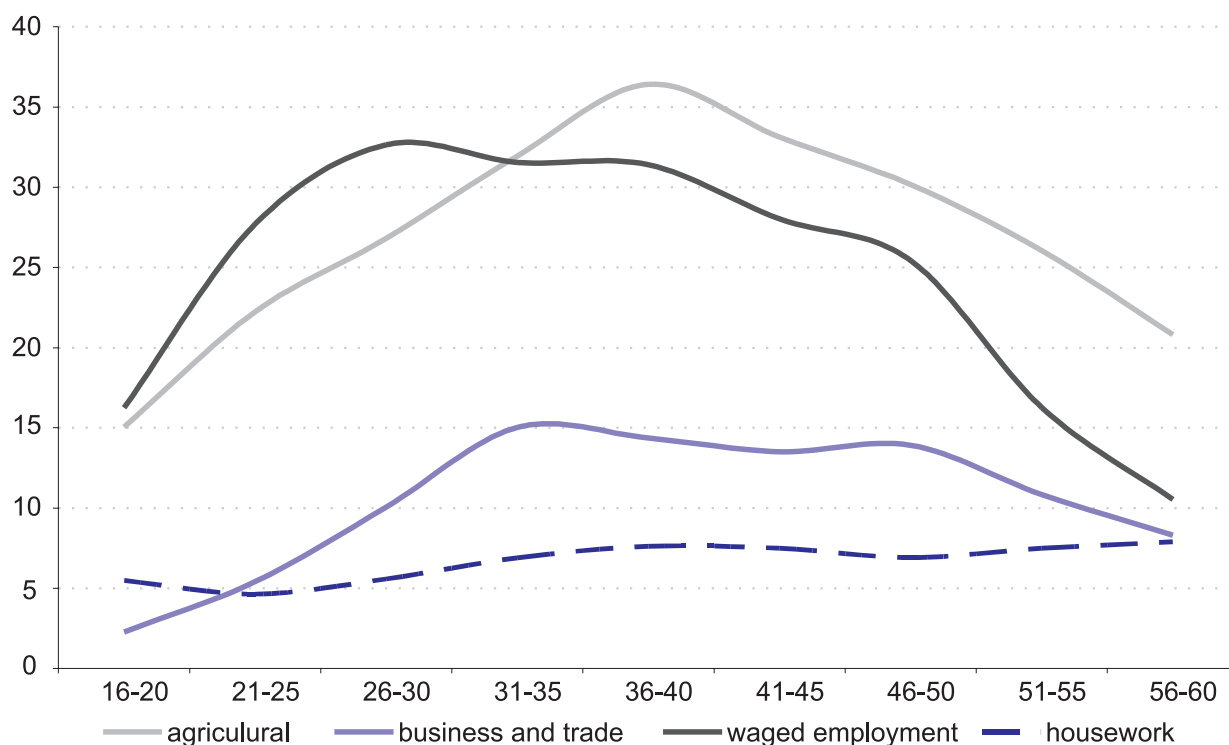
|                                               | Men                  |                        |              | Women                |                        |              |
|-----------------------------------------------|----------------------|------------------------|--------------|----------------------|------------------------|--------------|
|                                               | marginal probability | Robust Standard Errors | Significance | marginal probability | Robust Standard Errors | Significance |
| <b>Individual Characteristics</b>             |                      |                        |              |                      |                        |              |
| Marital Status (omitted variable married)     |                      |                        |              |                      |                        |              |
| single                                        | -0.082               | 0.023                  | 0.000 ***    | -0.165               | 0.020                  | 0.000 ***    |
| divorced                                      | -0.046               | 0.065                  | 0.492        | -0.077               | 0.032                  | 0.046 **     |
| widowed                                       | -0.142               | 0.070                  | 0.071 *      | -0.092               | 0.022                  | 0.001 ***    |
| Ill in past 52 weeks                          | -0.018               | 0.014                  | 0.183        | 0.015                | 0.011                  | 0.192        |
| age                                           | 0.083                | 0.018                  | 0.000 ***    | 0.045                | 0.019                  | 0.020 **     |
| age2                                          | -0.002               | 0.001                  | 0.000 ***    | -0.001               | 0.001                  | 0.034 **     |
| age3                                          | 0.000                | 0.000                  | 0.010 **     | 0.000                | 0.000                  | 0.086 *      |
| Post 2ndry education                          | 0.135                | 0.016                  | 0.000 ***    | 0.247                | 0.018                  | 0.000 ***    |
| <b>Household Characteristics</b>              |                      |                        |              |                      |                        |              |
| Ethnic Minority                               | -0.136               | 0.021                  | 0.000 ***    | -0.002               | 0.020                  | 0.917        |
| Presences of someone over 60                  | -0.021               | 0.015                  | 0.155        | 0.010                | 0.013                  | 0.431        |
| Number of children in household               | -0.004               | 0.006                  | 0.448        | 0.000                | 0.006                  | 0.956        |
| Contributory Social Insurance Pension         | -0.041               | 0.022                  | 0.063 *      | 0.052                | 0.020                  | 0.006 ***    |
| Social Welfare                                | 0.019                | 0.023                  | 0.410        | 0.056                | 0.021                  | 0.005 ***    |
| Remittance                                    | 0.015                | 0.018                  | 0.411        | -0.012               | 0.015                  | 0.402        |
| Other self-employed in household              | -0.241               | 0.020                  | 0.000 ***    | -0.131               | 0.016                  | 0.000 ***    |
| Other waged in household                      | 0.288                | 0.016                  | 0.000 ***    | 0.200                | 0.014                  | 0.000 ***    |
| <b>Locational Characteristics</b>             |                      |                        |              |                      |                        |              |
| Urban                                         | 0.067                | 0.016                  | 0.000 ***    | 0.038                | 0.013                  | 0.002 ***    |
| Region (omitted variable North Central Coast) |                      |                        |              |                      |                        |              |
| Red River Delta                               | 0.086                | 0.024                  | 0.000 ***    | 0.112                | 0.023                  | 0.000 ***    |
| North Eastern Mountain                        | -0.038               | 0.025                  | 0.137        | 0.035                | 0.024                  | 0.125        |
| North Western Mountain                        | -0.076               | 0.036                  | 0.043 **     | -0.009               | 0.032                  | 0.785        |
| South Central Coast                           | 0.034                | 0.027                  | 0.205        | 0.140                | 0.029                  | 0.000 ***    |
| Central Highlands                             | -0.034               | 0.032                  | 0.288        | 0.100                | 0.039                  | 0.004 ***    |
| South East                                    | -0.012               | 0.026                  | 0.640        | 0.210                | 0.029                  | 0.000 ***    |
| Mekong Delta                                  | -0.019               | 0.023                  | 0.398        | 0.177                | 0.024                  | 0.000 ***    |

Source: Authors' calculations from VHLSS 2004

Notes: Probit regression model with marginal effects - robust standard errors adjusted for household level characteristics

Significance \* &gt; 90%, \*\* &gt; 95%, \*\*\* &gt; 99%

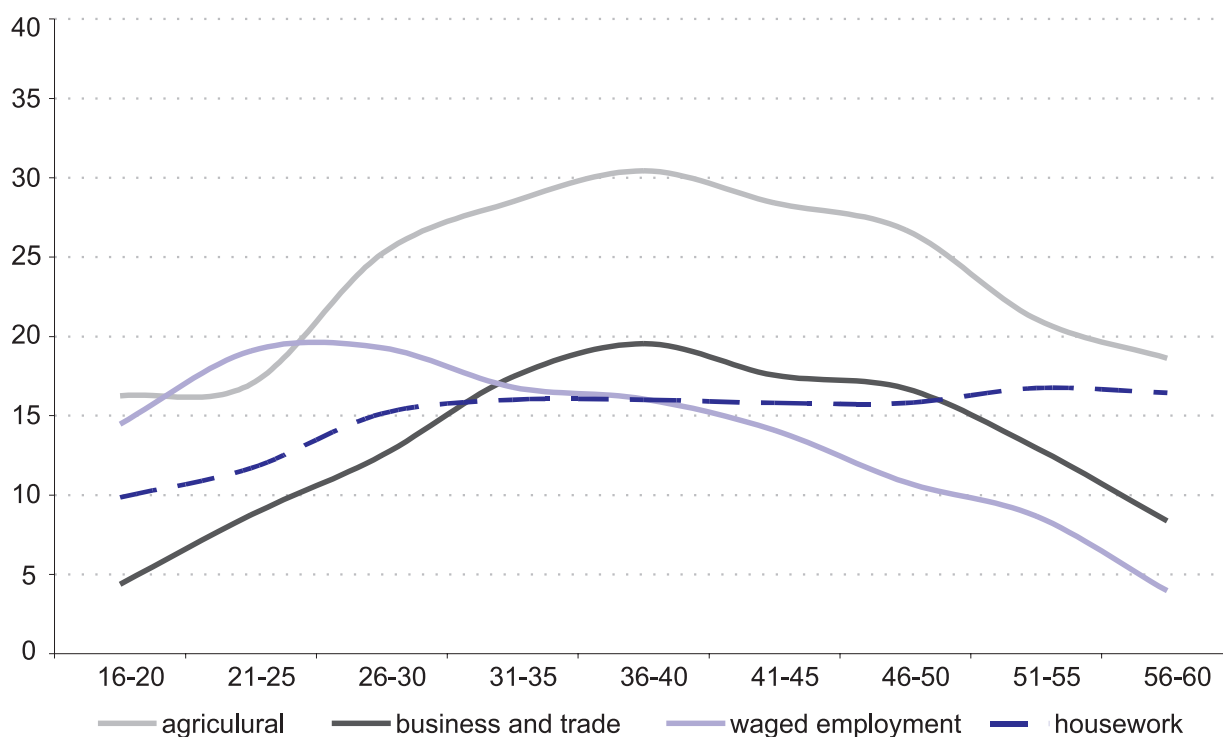
**Figure 4.11 : Weekly Hours of Employment for Men by Age and Type of Employment**



Source: Authors' calculations from VHLSS 2004

Notes: Probit regression model with marginal effects - robust standard errors adjusted for household level characteristics  
Significance \*>90%, \*\*>95%, \*\*\*>99%

**Figure 4.12 : Weekly Hours of Employment for Women by Age and type of Employment**



Source: Authors' calculations from VHLSS 2004

We supplemented our modelling of employment status with models of hours employed for men and women for all three types of employment (waged, agricultural and trade). We do not report these results here as they added little to the analysis on work status.

Overall, the evidence suggests that there are small reductions in work when social security pensions are paid to other members of the household. However, there is the opposite effect for social welfare payment on women's employment. It is difficult to interpret any policy significance for these findings without first looking at what the underlying circumstances and causes are. Where work is reduced it could be that there are younger people opting to engage in more education and trading, and that they work less if there is a subsidy to household income. Alternatively, it may be that work with low marginal benefits from work - low rewards to self-employment activity for instance - reduce their work hours when income is supplemented. There are other potential causes and the issue needs careful consideration and further examination and research. It must be remembered that the transfers we chose to examine (pensions and social welfare) are those paid without a test of income and there is no direct disincentive to work (because of withdrawal of benefit as income rises) that exists with means-tested programmes directed at poorer households. On the whole, these benefits are paid to household with average incomes and above and thus interact with earnings levels that are relatively large. Additionally, the evidence from categorical social welfare payments, that are seen to increase work effort for women, clearly suggest that there is no simple economic trade off between income and leisure occurring that can be understood without further thought about the underlying characteristics of the households concerned and the relationships between individuals within them.

#### 4.4 Social Security and Remittances

There is in theory a high risk that transfers will affect informal income sharing and gifts. Put simply, state transfers could be seen to displace or replace informal welfare - sons and daughters whose parents receive social security may feel that they are freed from their cultural responsibilities to provide parental income support. On the other hand, it is possible that social security transfers to donors could increase their ability to provide remittances simply because the household has higher overall resources from state transfers that can be shared with others. We test both these hypotheses - on giving and receiving.

Eighty six per cent of all individuals live in households where remittances from another household in Vietnam are received and seven per cent live in households receiving overseas remittances. Table 4.6 shows that 80 per cent of the population receive only domestic remittances but that the overlap between domestic and overseas remittances is considerable, a further six per cent of the population. Just under two per cent of the population only receive international remittances.

The sums involved are considerable. The mean value of domestic remittances is 2.3 million VND per capita per annum in the households that receive them - but there is a skewed distribution with a tail of very high remittances. The median value of domestic remittances is much smaller at 500,000 VND per capita per annum. International remittances are, not surprisingly, much higher with a mean of 16.7 million VND per capita per annum and a median value of 8.4 million. Table 4.7 summarises a range of descriptive profiles for the overall population. On average, including those households that receive no remittances, per-capita income is 402,000 VND from domestic and 240,000 VND from international remittances. Average expenditure on remittances is 150,000 VND leading to an overall net effect on per-capita income of a gain of 491,000 VND.

**Table 4.6 : Remittance Receipt**

|                      |       |
|----------------------|-------|
| Domestic Only        | 80.0% |
| Domestic and Foreign | 5.7%  |
| Foreign Only         | 1.6%  |
| None                 | 12.7% |

Source: Authors' calculations from VHLSS 2004

## How Progressive is Social Security in Viet Nam?

Remittance giving and receipt is not linearly associated with original income (before private or public transfers). Receipts of domestic remittances are around 280,000 to 330,000 VND for the poorest three quintiles and then rise significantly, while receipts of international remittances are higher for the poorest quintile than the 2nd or 3rd, and roughly equal to those at the 4th quintile, but half as much as those received by the richest quintile. However, expenditure on remittances does rise as income rises. The overall net effect of remittances is that the poorest and 4th quintiles have a net increase of just under half a million VND per capita, but the net gain is lower for the 2nd and 3rd quintiles, and much higher for the richest quintile at over 850,000 VND. Households with elderly people receive more on average than households with children, and foreign remittances in particular are markedly higher for households with older people. The age profile for remittance giving shows a fall in giving for those in their 30s and 40s and is higher for older people and those in their 20s. There is little aggregate difference in remittance profiles between those live in households that receive public transfers of social security and those that do not.

How are remittance giving and receipt related to social security receipt? Table 4.8 shows the results from two regression models that estimate the relationship between the amounts of remittances given and received and a range of characteristics including household receipt of social security. For this estimation we use all forms of social security receipt, both general and specific transfers, but use a flag to identify households that receive rather than specify the amount of social security received.

**Table 4.7 : Remittance Receipt and Giving**

|                                          |          | Income  |       | Giving | Net effect |
|------------------------------------------|----------|---------|-------|--------|------------|
| 000s VND per capita per annum            |          |         |       |        |            |
| Average for all households               | Domestic | Foreign | Total |        |            |
|                                          | 402      | 240     | 641   | 150    | 491        |
| By quintile of Original Market Income    |          |         |       |        |            |
| poorest                                  | 333      | 237     | 570   | 71     | 499        |
| 2nd                                      | 276      | 163     | 439   | 89     | 350        |
| 3rd                                      | 326      | 116     | 443   | 131    | 311        |
| 4th                                      | 448      | 218     | 666   | 168    | 498        |
| richest                                  | 671      | 504     | 1,176 | 317    | 858        |
| Households with children                 | 347      | 199     | 546   | 130    | 415        |
| Households with someone aged over 60     | 461      | 368     | 830   | 159    | 671        |
| Age                                      |          |         |       |        |            |
| 0-15                                     | 331      | 182     | 513   | 119    | 395        |
| 16-20                                    | 341      | 175     | 517   | 149    | 367        |
| 21-25                                    | 445      | 265     | 710   | 160    | 550        |
| 26-30                                    | 450      | 267     | 717   | 159    | 558        |
| 31-35                                    | 377      | 253     | 630   | 138    | 492        |
| 36-40                                    | 292      | 222     | 514   | 137    | 377        |
| 41-45                                    | 428      | 299     | 727   | 159    | 568        |
| 46-50                                    | 460      | 287     | 748   | 188    | 560        |
| 51-55                                    | 540      | 246     | 786   | 205    | 581        |
| 56-60                                    | 556      | 327     | 883   | 217    | 666        |
| over 60                                  | 612      | 394     | 1007  | 190    | 817        |
| Households receiving social security     | 421      | 227     | 648   | 151    | 497        |
| Households not receiving social security | 378      | 256     | 634   | 149    | 485        |

Source: Authors' calculations from VHLSS 2004

Note: Row percentages may not exactly sum due to rounding

Table 4.8 : OLS Regression Model for Receiving and Giving Remittances

| Model 1                                                             |                     |              |              | Model 2                |              |              |
|---------------------------------------------------------------------|---------------------|--------------|--------------|------------------------|--------------|--------------|
| Number of obs = 40,438                                              |                     |              |              | Number of obs = 40,438 |              |              |
| Prob > F = 0.0000                                                   |                     |              |              | Prob > F = 0.0000      |              |              |
| R-squared = 0.1186                                                  |                     |              |              | R-squared = 0.0816     |              |              |
|                                                                     | Receiving           |              |              | Giving                 |              |              |
|                                                                     | beta<br>coefficient | Robust<br>SE | significance | beta<br>coefficient    | Robust<br>SE | significance |
| <b>Individual Characteristics</b>                                   |                     |              |              |                        |              |              |
| Female                                                              | 0.008               | 0.052        | 0.870        | 0.047                  | 0.048        | 0.324        |
| Marital Status (omitted variable married)                           |                     |              |              |                        |              |              |
| single                                                              | 0.295               | 0.112        | 0.009 ***    | -0.093                 | 0.113        | 0.408        |
| divorced                                                            | 0.694               | 0.251        | 0.006 ***    | -0.292                 | 0.305        | 0.338        |
| widowed                                                             | 0.281               | 0.177        | 0.112        | -0.400                 | 0.172        | 0.020        |
| widowed                                                             | 0.163               | 0.169        | 0.334        | -0.065                 | 0.166        | 0.697        |
| under 13 (marriageable age)                                         | 0.417               | 0.054        | 0.000 ***    | 0.279                  | 0.051        | 0.000 ***    |
| Ill in past 52 weeks                                                | 0.500               | 0.061        | 0.000 ***    | 0.160                  | 0.059        | 0.007 ***    |
| Age (omitted variable aged under 16)                                |                     |              |              |                        |              |              |
| a2                                                                  | 0.105               | 0.171        | 0.538        | -0.101                 | 0.167        | 0.547        |
| a3                                                                  | 0.090               | 0.156        | 0.563        | -0.187                 | 0.154        | 0.226        |
| a4                                                                  | 0.087               | 0.147        | 0.555        | 0.148                  | 0.137        | 0.282        |
| a5                                                                  | -0.298              | 0.148        | 0.044 **     | -0.103                 | 0.141        | 0.465        |
| a6                                                                  | -0.434              | 0.148        | 0.003 ***    | 0.060                  | 0.136        | 0.659        |
| a7                                                                  | -0.052              | 0.145        | 0.723        | 0.080                  | 0.135        | 0.555        |
| a8                                                                  | 0.055               | 0.146        | 0.706        | 0.099                  | 0.139        | 0.479        |
| a9                                                                  | 0.116               | 0.161        | 0.470        | 0.267                  | 0.144        | 0.064 *      |
| a10                                                                 | 0.005               | 0.184        | 0.979        | 0.082                  | 0.165        | 0.621        |
| <b>Household Characteristics</b>                                    |                     |              |              |                        |              |              |
| Ethnic Minority                                                     | -1.064              | 0.091        | 0.000 ***    | -1.313                 | 0.092        | 0.000 ***    |
| Presences of someone over 60                                        | 0.500               | 0.061        | 0.000 ***    | 0.500                  | 0.061        | 0.000 ***    |
| Number of children in household                                     | -0.196              | 0.026        | 0.000 ***    | -0.196                 | 0.026        | 0.000 ***    |
| Original Market Income Quintile (omitted variable poorest quintile) |                     |              |              |                        |              |              |
| 2nd                                                                 | -0.393              | 0.079        | 0.000 ***    | 0.677                  | 0.076        | 0.000 ***    |
| 3rd                                                                 | -0.214              | 0.081        | 0.008 ***    | 1.277                  | 0.075        | 0.000 ***    |
| 4th                                                                 | -0.485              | 0.087        | 0.000 ***    | 1.583                  | 0.080        | 0.000 ***    |
| 5th                                                                 | -0.473              | 0.097        | 0.000 ***    | 2.048                  | 0.092        | 0.000 ***    |
| Receives Social Security transfer                                   | 0.996               | 0.055        | 0.000 ***    | 0.512                  | 0.052        | 0.000 ***    |
| <b>Locational Characteristics</b>                                   |                     |              |              |                        |              |              |
| Urban                                                               | 0.191               | 0.066        | 0.004 ***    | -0.085                 | 0.058        | 0.140        |
| Region (omitted variable North Central Coast)                       |                     |              | ***          |                        |              |              |
| Red River Delta                                                     | -1.064              | 0.098        | 0.000 ***    | -0.344                 | 0.073        | 0.000 **     |
| North Eastern Mountain                                              | -3.779              | 0.186        | 0.000 ***    | -1.969                 | 0.147        | 0.000 ***    |
| North Western Mountain                                              | -0.569              | 0.096        | 0.000 ***    | -0.695                 | 0.066        | 0.000 ***    |
| South Central Coast                                                 | -0.539              | 0.099        | 0.000 ***    | -1.473                 | 0.080        | 0.000 ***    |
| Central Highlands                                                   | -0.385              | 0.105        | 0.000 **     | -0.661                 | 0.096        | 0.000 ***    |
| South East                                                          | 0.268               | 0.090        | 0.003 ***    | -2.015                 | 0.084        | 0.000 ***    |
| Mekong Delta                                                        | -0.206              | 0.080        | 0.010 **     | -1.291                 | 0.069        | 0.000 ***    |
| Constant                                                            | 2.894               | 0.182        | 0.000 ***    | 3.054                  | 0.177        | 0.000 ***    |

Source: Authors' calculations from VHLSS 2004

Notes: OLS regression models on the log of remittances given and received  
Significance \* >90%, \*\* >95%, \*\*\* >99%

The results from the regressions clearly show that receiving social security supports both the receipt and giving of remittances. We had previously seen the association of receipt of remittances with receipt of social security in Chapter 2 and these results confirm this finding but also show that social security supports remittance giving. This finding is the opposite of what would be suggested in a simple "crowding out" or substitution hypothesis that suggests that state transfers lessen social obligations for informal support and replace private remittances.

### 4.5 Social Security and Saving

In the final section of this chapter we come to consider the relationship of social security to savings. The effect of social security on savings behaviour is potentially complex. Compulsory contributions to social security retirement pensions will potentially lead to lower voluntary savings over the working lifetime but as VHLSS data does not record contributions it is not possible to examine this issue properly. Apart from state "saving" through social security contributions (there is no actual underlying accumulated capital as the system is pay as you go rather than funded) there is a very underdeveloped personal finance industry in Vietnam and the majority of income smoothing is done informally through loans and remittances. This additionally makes data on financial flows into and out of savings poor. Our analysis of savings behaviour can not be based on flows - either accumulating or dissaving - but is restricted to profiles of "stock" - household totals of savings and assets <sup>47</sup>.

Monetary savings also appear relatively rare in Vietnamese households, with only 15 per cent of individuals reporting that they live in households with savings. On the other hand the possession of assets is universally widespread, and 99.9 per cent of individuals report living in households with assets of some sort. The problem for analysis is that these can be forms of collateral or productive assets with no way of distinguishing the motorbike that is used as a Xe Om from one that is solely used for own transport needs, for instance. Similarly, for agricultural households livestock can be both collateral and productive assets and items for household consumption. The clearest distinction is between "fixed assets and durable goods" that include white goods, radios and televisions and transportation, and of monetised savings and gold deposits.

Table 4.9 shows descriptive profiles for both savings and assets. The average savings of the 15 per cent of the population who hold them is almost 12 million VND but this is small when compared to assets, which on average are 180 million VND. This average however hides a highly skewed distribution of assets; the median holding is 26 million VND. Savings appear to be higher for those in their twenties and fifties, which may represent short term savings for weddings and longer term savings prior to old age respectively. There is no clear pattern of asset wealth over the lifecycle. Both savings and asset holdings are clearly related to income with the richest quintile holding savings worth over ten times that of the poorest and holding assets fifteen times greater. Households receiving social security appear to have slightly higher assets holdings but show no significant difference in savings.

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<sup>47</sup> We considered the issue of "dissaving" in order to see if there was evidence of households drawing on assets to meet needs but the small numbers of households who were drawing on their savings were high income households with large savings and thus gave us no insights into the issue of dissaving to meet basic needs and thus of a potential role for social security in meeting need.

Table 4.9 : Savings and Assets

|                                     | Savings | Assets  |
|-------------------------------------|---------|---------|
| % of individuals                    | 15.0%   | 99.9%   |
| average per capita                  | 1,877   | 179,971 |
| average holding per capita          | 11,924  | 179,810 |
| Age (over 16s only)                 |         |         |
| 16-20                               | 1,912   | 152,737 |
| 21-25                               | 2,000   | 221,307 |
| 26-30                               | 2,119   | 167,066 |
| 31-35                               | 1,499   | 216,342 |
| 36-40                               | 1,412   | 137,629 |
| 41-45                               | 1,494   | 179,048 |
| 46-50                               | 2,632   | 213,450 |
| 51-55                               | 2,641   | 162,542 |
| 56-60                               | 2,171   | 119,540 |
| Over 60                             | 1,532   | 187,784 |
| Quintiles of Original Market Income |         |         |
| poorest                             | 524     | 46,483  |
| 2nd                                 | 455     | 46,285  |
| 3rd                                 | 1,331   | 78,088  |
| 4th                                 | 2,156   | 124,513 |
| richest                             | 4,857   | 600,826 |
| Social security received            | 1,880   | 154,598 |
| Social security not received        | 1,873   | 211,255 |

Source: Authors' calculations from VHLSS 2004

Table 4.10 shows the results from two regression models that estimate the relationship between amounts held in savings and assets (the log of their amount is specified) to a wide range of characteristics including the receipt of social security into the household. Social security receipt is significantly associated with both higher levels of savings and assets.

**Table 4.10 : Regression of Savings and Asset Holdings**

Model 1  
Number of obs = 27,247  
Prob > F = 0.0000  
R-squared = 0.0705

Model 2  
Number of obs = 27,058  
Prob > F = 0.0000  
R-squared = 0.214

| Amount of Savings                             |                     |              |              | Amount of Assets    |              |              |
|-----------------------------------------------|---------------------|--------------|--------------|---------------------|--------------|--------------|
|                                               | beta<br>coefficient | Robust<br>SE | significance | beta<br>coefficient | Robust<br>SE | significance |
| <b>Individual Characteristics</b>             |                     |              |              |                     |              |              |
| Female                                        | 0.082               | 0.087        | 0.345        | 0.011               | 0.020        | 0.576        |
| Marital Status (omitted variable married)     |                     |              |              |                     |              |              |
| single                                        | 0.100               | 0.169        | 0.555        | 0.033               | 0.037        | 0.381        |
| divorced                                      | -0.691              | 0.334        | 0.039 **     | -0.510              | 0.113        | 0.000 ***    |
| widowed                                       | -0.604              | 0.246        | 0.014 **     | -0.252              | 0.059        | 0.000 ***    |
| Ill in past 52 weeks                          | 0.031               | 0.090        | 0.730        | -0.048              | 0.022        | 0.026 **     |
| Age                                           |                     |              |              |                     |              |              |
| a2                                            | -0.366              | 0.255        | 0.151        | -0.366              | 0.255        | 0.151        |
| a3                                            | -0.312              | 0.235        | 0.185        | -0.312              | 0.235        | 0.185        |
| a4                                            | -0.276              | 0.219        | 0.208        | -0.276              | 0.219        | 0.208        |
| a5                                            | -0.660              | 0.208        | 0.002 ***    | -0.660              | 0.208        | 0.002 ***    |
| a6                                            | -0.676              | 0.207        | 0.001 ***    | -0.676              | 0.207        | 0.001 ***    |
| a7                                            | -0.646              | 0.206        | 0.002 ***    | -0.646              | 0.206        | 0.002 ***    |
| a8                                            | -0.385              | 0.215        | 0.074 *      | -0.385              | 0.215        | 0.074 *      |
| a9                                            | -0.178              | 0.236        | 0.451        | -0.178              | 0.236        | 0.451        |
| a10                                           | -0.030              | 0.266        | 0.911        | -0.030              | 0.266        | 0.911        |
| <b>Household Characteristics</b>              |                     |              |              |                     |              |              |
| Ethnic Minority                               | -0.455              | 0.115        | 0.000 ***    | -0.300              | 0.037        | 0.000 ***    |
| Presence of someone over 60                   | 0.113               | 0.106        | 0.284        | 0.328               | 0.025        | 0.000 ***    |
| Number of children in household               | 0.123               | 0.037        | 0.001 ***    | 0.125               | 0.010        | 0.000 ***    |
| Original Market Income Quintile               |                     |              |              |                     |              |              |
| 2nd                                           | 0.819               | 0.104        | 0.000 ***    | 0.711               | 0.033        | 0.000 ***    |
| 3rd                                           | 2.099               | 0.128        | 0.000 ***    | 1.171               | 0.035        | 0.000 ***    |
| 4th                                           | 2.921               | 0.136        | 0.000 ***    | 1.643               | 0.036        | 0.000 ***    |
| 5th                                           | 4.013               | 0.162        | 0.000 ***    | 2.452               | 0.042        | 0.000 ***    |
| Receives Social Security transfer             | 0.184               | 0.089        | 0.039 **     | 0.143               | 0.021        | 0.000 ***    |
| Other waged workers in household              | 0.206               | 0.091        | 0.024 **     | -0.637              | 0.021        | 0.000 ***    |
| <b>Locational Characteristics</b>             |                     |              |              |                     |              |              |
| Urban                                         | -0.819              | 0.117        | 0.000 ***    | -0.047              | 0.026        | 0.075 *      |
| Region (omitted variable North Central Coast) |                     |              |              |                     |              |              |
| Red River Delta                               | 0.009               | 0.149        | 0.953        | 0.044               | 0.032        | 0.168        |
| North Eastern Mountain                        | -0.670              | 0.165        | 0.000 ***    | 0.042               | 0.055        | 0.441        |
| North Western Mountain                        | 0.533               | 0.157        | 0.001 ***    | 0.013               | 0.032        | 0.685        |
| South Central Coast                           | 0.448               | 0.172        | 0.009 ***    | 0.043               | 0.034        | 0.214        |
| Central Highlands                             | -1.301              | 0.150        | 0.000 ***    | 0.408               | 0.047        | 0.000 ***    |
| South East                                    | -1.391              | 0.153        | 0.000 ***    | -0.128              | 0.037        | 0.001 ***    |
| Mekong Delta                                  | 1.938               | 0.147        | 0.000 ***    | -0.152              | 0.032        | 0.000 ***    |
| Constant                                      | -8.600              | 0.271        | 0.000 ***    | 8.858               | 0.066        | 0.000 ***    |

Notes: OLS regression models on the log of savings and assets held  
Significance \* >90%, \*\* >95%, \*\*\* >99%

#### 4.6 Summary and Conclusion

This chapter has considered potential behavioural effects of social security but has approached all analysis in a tentative and cautious way. None of the analysis has attempted to establish causal relationships with the receipt of social security but instead has adopted an approach of outlining context and then looking at associations through regression models.

- Households that receive social security are associated with increased rates of up-take of post-primary education up to the age of 17.
- Individuals of working age who live in households that receive social welfare payments and pensions appear to have a slightly reduced employment, although there are differences in both gender, type of payment and type of work. Overall, men work less where pensions are paid, and especially in self-employment. Women work more overall where social welfare is in payment, and especially in waged employment.
- Remittance receipt and remittance expenditure are both positively associated with the receipt of social security into households.
- Savings are difficult to measure and associate with social security receipt. However, stocks of both savings and assets appear to be positively related to receipt of social security into the household.

## 5. Summary and Conclusions

The aims of this report are to promote discussion and careful consideration of the current system of social security in Viet Nam and to promote good quality discussion of potential policy reforms. We have interpreted the term "social security" in a broad sense to look at all forms of public income transfers. We have also interpreted the issue of progressivity widely to mean not only what transfers go to whom and their relationship to income levels but also the impact on income before and after transfers and the net effect of the combination of taxes, charges and transfers. This wide-ranging approach has meant exploring and questioning some of the customary definitions that have been adopted in previous Vietnamese analysis. Our approach leads us to conclusions that start from data and methodological considerations in the first instance and then build to include the implications of our findings for current and future policy.

### 5.1 Data lessons

The ability to accurately measure the impact of fiscal and social policy is crucial for today's operation of social security as well as discussion of reform. There are two main sources of data, first, administrative data on beneficiaries and expenditure of programmes and second, survey data. We take these in turn.

We invested considerable effort early in our research and analysis into gaining more detailed data on the programmes that make up Vietnamese social security from the Ministries and agencies involved in their delivery. Data in the form of numbers of beneficiaries and the amounts of awards, breakdowns of the types of assistance given (in-kind or cash transfers) were only partially available and availability was not consistent across the various programmes. This absence of data represents a real problem for transparency<sup>48</sup> and operational efficiency and effectiveness as well as being a core problem for good quality analysis.

The data in VHLSS is of very good quality but thought needs to be given to improve data collection in future surveys to assist in assessment of the effectiveness and impacts of current programmes and in analysis of potential reforms. There are several distinct areas where improved data will provide benefits for policy makers and analysts.

First, collection of better earnings data that can capture gross earnings before social security contributions and before income tax (for the small minority of those who pay it) will improve the ability to measure fiscal inputs alongside outputs as well as how these outputs affect outcomes in the income distribution. Redistribution occurs through taxes and transfers and it is thus crucial to have accurate data on both.

Second, individual level data on transfer receipt is needed where it is appropriate. If entitlement to a transfer is due to individual circumstances - a contribution and earnings record, or injury or survivorship, for instance - then these amounts should be identified for the appropriate individual wherever possible. On the other hand, where entitlement is due to household level circumstances, such as household income level, then these should continue to be recorded at the household level.

Third, there needs to be more thought given to capturing the effects of services and provision of benefits in kind. At the moment these straddle the household and commune level questionnaires but where programmes are in place that affect individual and household welfare. For instance, school subsidies and charges need to be collected more systematically. Where programmes are not delivered at commune level then improving the ability to link commune and household data to better quality administrative and expenditure data (discussed above) would improve analysis.

Fourth, more detail is need for private remittances, especially to enable accurate distinction between one-off gifts, both in cash and kind, and regular remittances. Additionally, data on both payments out and receipts would be improved if there was some data on the relationship with the recipient and donor.

Fifth, we join others in suggesting that the sampling frame be widened to incorporate non-registered households. Additionally, consideration should also be given to including communal establishments as well as private households if a growing number of people, especially migrants, live in such circumstances.

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<sup>47</sup> See The Center on Budget and Policy Priorities' Open Budget Index which rates Viet Nam very poorly in terms of official openness and transparency. <http://www.openbudgetindex.org/CountrySummaryVietnam.pdf>

Sixth, there is the apparent need to research and develop more forms of weights to improve analysis of incomes and fiscal incidence.

Seventh, data on informal charges and corruption would allow a better insight into its extent and impact on household welfare alongside the delivery of social security.

Eighth, more work is suggested to make the panel element of the 2002 and 2004 VHLSS surveys ready for analysis - especially consideration of attrition and longitudinal weights where appropriate.

## **5.2 Methodology and Approach - some thoughts and lessons for analysis**

Measuring the effect of social security transfers is most directly done by seeing it as one of many sources of income to individuals and households. Using income as a primary indicator of welfare is not, however, customary in Viet Nam or in other industrialising countries, where consumption expenditure is preferred. Our use of income as a primary measure of the effectiveness and incidence of social security transfers meant that we had to consider current definitions and we found that there were limitations in the current way that income is computed and defined. We necessarily considered social security transfers as one element of fiscal interventions in household welfare and this meant that a thorough and comprehensive estimate of impact required us to look at gross and net incomes, and to consider net income under a number of definitions.

The current GSO definition of income is close to a definition that represents net income after direct taxes. This is fine as a measure of income that can be linked to expenditure but is limited in its ability to capture the impact of the combination of taxes and transfers. We produced rough estimates of gross income before social security contributions, but to do more requires both better data (see above) and a change in approach to see original or gross incomes as a necessary part of analysis of income. This will also require more data on and more consideration of the issue of income taxation - a matter that we put to one side in our estimates.

Our approach, and one we recommend in outline, is to view social security as one of inputs and outputs; that is of what people pay out as well as what they receive. This approach not only applies to public fiscal interventions but also to private gifts and remittances. There seems little point in merely defining and measuring income sources if liabilities and obligations are not also considered - both to the state and to the family and others. This means that methodology should develop to capture flows of resources and their outcomes.

The main issue when determining net income - what is left from gross income after identifying outflows and liabilities- is one of distinguishing payments that reflect compulsion (taxes, essentially) versus choice in consumption. Our approach here was a crude first attempt to do this and should not be viewed as definitive. Faced with uncertainty in data and our ability to accurately distinguish compulsion versus choice, we defined two versions of net income for analysis of public social security. Taxes and charges that were for compulsory services such as primary education were unambiguously deducted from gross incomes for our first definition, but we were left with a dilemma in the treatment of quasi-compulsory areas such as lower secondary schooling and of areas where constraints on choice were severe, such as spending on necessary health care. We adopted a second definition of net income that deducted all spending on education and healthcare, and its effect on incomes at the bottom of the distribution had a greater effect than we anticipated, pointing to real income/budget constraints on consumption of mainstream health and education services alongside obvious take-up of private positional goods by those on higher incomes. This is an area where investment in further research is essential - on the effect of user charges and the combination of specific transfers to cover healthcare costs in particular.

Despite these methodological uncertainties, our approach in defining net incomes after user-charges allowed us to consistently rank households who received transfers to pay for healthcare and who received scholarships with those that didn't and had to face such charges with no income subsidy.

A further methodological consideration in the treatment of income arose in our research: the issue of use of equivalence scales to account for pooling household resources and the economies of scale that result.

However, we chose to put that issue to one side and to consider it separately in our discussion of elderly people's incomes in the accompanying paper.

During our time undertaking research and analysis, the headline poverty results from the 2004 VHLSS survey were released and gave rise to discussion on how rapid reductions in poverty should be interpreted and relate to the Government of Viet Nam's concerns for urban and rural differences in consumption patterns and poverty lines. This raised some concerns about the sensitivity of poverty measures to elements of consumption that were changing price rapidly and differentially between urban and rural areas. This led us to consider the potential for housing costs to alter poverty measurements and urban-rural differentials and we produced some tentative and incomplete re-estimation of poverty without housing costs. The effect of this was to significantly alter the urban-rural poverty comparison and we strongly urge more research to take this first step forward into a more complete series of decomposition and re-estimation of consumption poverty lines, both for current estimates and also for the time series on Vietnamese poverty. Furthermore, in our discussion of poverty, we emphasised the depth of poverty for the poor - their poverty gaps - alongside overall poverty incidence. This seemed crucial when considering the effect of social security to not only reduce the incidence of poverty, but also to reduce its depth or increase the level of clearance above poverty, and thus the potential to fall into subsequent poverty.

### 5.3 Findings on Progressivity

Social security in Viet Nam can be thought of as to two major groups of beneficiaries. The first are predominantly low to middle income households who receive a range of transfers that assist them with healthcare and also some social assistance. These transfers are income related and include some transfers that are directed through anti-poverty initiatives. The other group consists of two cohorts - the retired public employees from pre doi moi period who now receive social insurance pensions and those injured or bereaved by the long war of independence. Their entitlement to transfers is not based on current income but either based on previous earnings (and an implied contribution record) or on their categorical status as having incurred a loss from war. This description is a simplification, there are high income households that receive healthcare transfers and there are more recent beneficiaries to social welfare payments from congenital defects caused by the war, for instance, but the overall progressive impact of the current set of transfers is dominated by these entitled cohorts.

If we consider the distribution of these cohorts then they are more likely to live in the Northern regions, less likely to be from ethnic minorities, and, especially the ex-public servants, more likely to live in urban areas. It is then not surprising that we find that social security transfers follow suit and that, independent of income; there are strong associations with region, ethnicity and urban areas. The difficulty we have in establishing progressive impact is that we are only able to look cross-sectionally and thus unable to take out the cohort effect.

The other major factor in overall profile for social security is that much of the other forms of social security transfers are not only paid according to income level but are also paid to assist with the costs of healthcare and education, which means that measuring their progressivity necessitates that we have to take into account charges and liabilities for these services alongside income transfers to compare recipients and non-recipients in a consistent manner.

These two factors structurally determine progressivity but act in ways that are difficult to identify using simple income definitions and cross-sectional analysis.

When we start with the simple story, even then, Vietnamese social security is regressive. Almost 40 percent of all social security is paid to the richest fifth of the income distribution, and over a further quarter to the next richest fifth. The poorest fifth in the income distribution get less than seven percent. The reasons for this are that the higher payments go to those with highest incomes, many Vietnamese receive something but not very much, while a minority receive quite a lot.

The widespread receipt of smaller levels of payments towards healthcare and education when compared to the higher awards for the two cohorts means that measuring the outcomes requires us to look at incomes

before and after transfers and to look at the net effect on incomes of taxes, transfers and charges. When we do this, we see a more complex situation that has progressivity when based on pre-transfer incomes. Those in the poorest income quintiles have the largest net effect of taxes and transfers alone and after spending on health and education have the lowest reduction in overall income. However, these results only allow us to look at a very strange definition of "original income" - that of today's pensioners without their pensions especially. In reality these are an elite group of ex public servants who had higher than average incomes over their working lives, and reducing their income to zero in any counterfactual is difficult to interpret. Even so, the important finding is that gains from transfers for the poorest income quintiles are reduced to zero by user-charges and spending on health and education.

Our analysis using consumption data and poverty confirmed that education assistance and social welfare receipts are highest among the poorest groups, and much lower among less poor groups, while the reverse is the case for pensions which are received more by those in richer households. Nominal transfers are highest for pensions followed by social welfare benefits and for almost all benefits the absolute amounts of benefit received by less poor households (per capita) are substantially greater - sometimes by a factor of ten - than those in the poorest households. A more progressive pattern arises when transfers are considered as a proportion of per capita consumption expenditure; then pensions are at least as high for the poorest households in comparison to the less poor. Social welfare payments are larger relative to consumption for those above the poverty line than for those below. Educational assistance is very small relative to consumption, but the relative benefits are greater for the poorest compared to those enjoying higher consumption levels.

The impact of social transfers on poverty shows that poverty headcounts would increase by 4.6 percentage points if no social security transfers were received. Most effect is from pensions and other transfers have little impact in terms of percentage point rises in poverty rates. These estimates make no attempt to calculate a counterfactual position that describes how underlying consumption would change without social transfers.

#### **5.4 Behavioural Effects**

We approached the issue of the behavioural effects of social transfers with extreme caution as data limitations and theoretical considerations made it very difficult to establish a clear "counterfactual", when so much unobserved behaviour such as the decision to co-reside, live apart and to migrate was of paramount importance to income pooling and sharing in Viet Nam. We made no attempt to use panel data to observe changes in behaviour between 2002 and 2004 in relationship to receipt of social security.

We found that payments of regular social security transfers of social welfare and of pensions were associated with positive decisions to remain in post-primary education for the children in those households. On the other hand we found that economic activity participation by working age men (aged between 16 and pension age) declined in households that received social insurance pensions. However, economic activity increased for working age women in households that received social welfare payments. We found that receipt of social security in a household was associated with both increased probability of both receiving and giving informal gifts and remittances. Our ability to look at the effect of social security on saving behaviour was limited by small numbers and the selective nature of those who were observed to add to and/or draw from savings. We used stocks of assets and savings in place of saving inflows and outflows and found that both asset and savings levels were significantly and positively associated with social security receipt in the household.

#### **5.5 Policy Choices and Policy Futures**

Looking at a strict definition of social security, and thus focusing on pensions, the financing of future pensions for today's working population is being taken forward at the moment by the promotion of voluntary contributions/savings alongside increasing the costs of existing compulsory social insurance for formal waged sector. The effect of this, and especially if there is a behavioural response to increase informal employment, will be most likely to increase regressivity in any cross-sectional analysis in the short to medium term. We will most likely observe lower net incomes of those contributing when compared to the current cohort of pension recipients who will remain mostly those on average and above incomes. The major issue for pensions and progressivity is thus how to ensure greater equity and progressivity for today's elderly who at the moment

have very little coverage from state transfers but, as we have seen, are a significant contributing factor to household poverty risk.

Our wider approach has emphasised what we term, the 'social protection mix' rather than a strict definition of social security. This social protection mix emphasises both private transfers between households and of private and subsidised purchase of healthcare and education alongside state provision of services and state transfers. The problem is that this mix as it currently stands is regressive. The net effect of private inter-household transfers favours the better off while charges claw back most of the income gains that poorer households make from inclusion in health and education services. When these are added to the major structural regressive picture from pension funding and provision, the requirement to promote more equity and greater progressivity in the future becomes urgent. The good news is that resourcing the mix from state transfers has generally favourable effects - increased uptake of education, increased household funds from which to continue and expand inter-household reciprocity.

This wider approach of the social protection mix means being able to balance a portfolio of services, transfers and charges and taxation by the state with informal and private provision. One clear requirement for the state to have a major positive and progressive impact is to deal with corruption. Even if no other changes to current state provision was made, the eradication of corruption would make the picture more progressive as informal rents and charges made by service providers on service users would diminish and some users who are currently deterred from up-take will no longer go to private providers and pay at the margins for partial treatment. But this is a starting point - improving delivery of current provisions - rather than an agenda for the future of social security, which is far wider than this, and even wider than merely looking at the alternative models for transfers that Justino has correctly suggested require assessment (Justino 2005).

Promoting an optimal social protection mix means looking at flows of resources as well as the mix of provision. Greater efforts need to be made to be able to model and test a variety of reform packages on a variety of implementation strategies and timetables. We strongly advocate an investment in micro-simulation and modelling alongside and feeding into the improved data and methodological approaches suggested previously.

What package of services and income support should go to children? Education subsidies, both in kind and through scholarships and grants, need careful review, especially if the aim of full enrolment in lower secondary education is to be met and rolled forward. The compulsory attendance of young teenage children in school significantly increases the opportunity costs of education, especially to the poor, and will require careful consideration of costs and payment options.

Health charges and health income and other subsidies require some careful consideration. A range of more specific behavioural and cost models with which to consider options on healthcare require careful thought and application. Can the costs be universalised through progressive forms of insurance with or without co-payment and charges?

The elderly pose a policy problem that is more carefully considered in our accompanying paper. It is clear that any universal demogrant paid purely on current definition of pension age requires targeting, both to avoid duplicate payment to existing pensioners and also for reasons of affordability. There are a wide range of options that can be considered target and modelled.

Our suggestions are that these policy reforms be taken forward on the best possible information and with the most careful consideration of impacts and consequences. Optimising the mix is important but must be balanced against some of the inequities of allowing the current mix to continue unchecked. For instance, maintaining private inter-household reciprocity is crucial but so is a levelling of its consequences if a minority miss out and are excluded - such as ethnic minority populations.

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