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Characteristics of the Vietnamese rural economy

Evidence from a 2016 rural household survey in 12 provinces of Viet Nam

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PREFACE

This report dates back to 2002 when the first Vietnam Access to Resources Household Survey (VARHS) was carried out. The results of the VARHS02 inspired the Central Institute for Economic Management (CIEM) of the Ministry of Planning and Investment (MPI) and the Centre for Agricultural Policy Consulting of the Institute of Policy and Strategy for Agriculture and Rural Development (CAP-IPSARD) of the Ministry of Agriculture and Rural Development (MARD), the Institute of Labour Science and Social Affairs (ILSSA) of the Ministry of Labour, Invalids and Social Affairs (MoLISA), and the Development Economics Research Group (DERG) of the University of Copenhagen, together with Danida, to plan and carry out another survey in 2006 and subsequently in 2008 and in 2010.

UNU-WIDER engaged from 2010 when Danish support started to wind down, and UNU-WIDER supported further surveys in 2012 and 2014. A comprehensive Oxford University Press (OUP) volume has just been published in the UNU-WIDER Studies in Development Economics relying on the complete 2006-14 panel data set.[1] The 2016 survey on which the present report is based builds on these previous rounds with a focus on developments between 2014 and 2016.

ILSSA carried out a wide range of tasks related to the planning and implementation of the survey in the field, and UNU-WIDER working with a team of researchers from Trinity College Dublin and DERG collaborated with CIEM and ILSSA in all aspects of survey design and data analysis under on-going institutional arrangements to ensure that the VARHS project develops both the data required to deliver policy-relevant research to decision makers and the research capacity to take advantage of that data.

The VARHS surveys were designed as collaborative research efforts with the explicit objective of complementing the large and nationally representative Vietnam Household Living Standards Survey (VHLSS) conducted biennially by the General Statistics Office (GSO). Many households surveyed in the VARHS have also been surveyed in the VHLSS. The VARHS thus focuses on building on the substantial database already being collected in the VHLSS, with a specific focus on collecting data and gaining an understanding of the access to and interaction of rural Vietnamese households with the markets for land, labour and credit. Moreover, as in previous survey rounds, attention was paid in 2016 to collecting agricultural data at the plot level of individual farmers.

The present report provides an overview of key insights from the VARHS16 database, comparing them, wherever feasible and appropriate, with results from earlier surveys with

[1] See Tarp (2017) which is freely downloadable from the following web-site: https://www.wider.unu.edu/publication/growth-structural-transformation-and-rural-change-viet-nam-0

a particular focus on VARHS14. It should be noted, however, that the report by no means provides exhaustive coverage of the data collected, and the reader is encouraged to refer to the household and commune questionnaires (available on-line) that were used in the collection of data to see the comprehensive set of issues addressed or to explore topics addressed in this report in greater depth.

Further in-depth studies of selected issues on the Vietnamese rural economy are underway, and a follow-up VARHS survey is being planned for 2018 with a view to continuing and expanding the panel database.

Professor Finn Tarp
Director, UNU-WIDER
9 October 2017

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The team of authors behind the present report is grateful to the President of CIEM, Dr Nguyen Dinh Cung, and the former and present Directors of ILSSA, respectively Dr Nguyen Thi Lan Huong and Dr Dao Quang Vinh, who have guided our work from beginning to end, and promoted effective collaboration between all partners.

The core research team was led by Professor Carol Newman (Trinity College Dublin), who worked closely with me in all stages of coordinating and supervising the work. Individual chapters were drafted by the following authors: Saurabh Singhal (Chapter 1), Thomas Markussen and Helge Zille (Chapter 2), Luciano Ayala-cantu (Chapter 3), Carol Newman (Chapter 4), Gaia Narciso (Chapter 5), Tara Bedi (Chapter 6), Anuj Singh (Chapter 7), Thomas Markussen and Helge Zille (Chapter 8). Our work was most effectively supported by Mengyang Zhang, who was the Research Assistant for the project. We are also grateful for research assistance from Marcelo Cardona Cabrera on Chapter 2 and Chapter 8.

Our work would not have been possible without professional interaction, advice and encouragement from many individuals and institutions. Particular thanks go to:

- The survey and data teams from ILSSA for productive and stimulating collaboration. They were coordinated by Dr Dao Quang Vinh and his staff including Vice Director, Mr. Le Ngu Binh. The survey would not have been possible without the efforts of these and many other ILSSA staff too numerous to name here in compiling the questionnaires, training enumerators, implementing the survey in the field, and cleaning the data.

- Colleagues at CIEM for their guidance and support throughout the process, in particular the Director of the Agriculture and Rural Development Department, Dr Dang Thu Hoai, and former Vice-President Mrs Vu Xuan Nguyet Hong, who have been tireless in providing support for the project that enabled the production of this report.

- The many staff at UNU-WIDER in Helsinki, who have supported us in our work as part of their many duties in one of the world's leading policy think tanks.

- The participants at the presentation at CIEM on 4 May 2017 of the draft version of this report. The commentators Dr. Nguyen Do Anh Tuan, Director, IPSARD, Mr. Dao Quang Vinh, Director, ILSSA, and Prof. Le Xuan Ba, former President of CIEM provided very helpful onservations and critique, as did the Chair Dr Nguyen Dinh Cung, President, CIEM.

Moreover, on behalf of the study team I would like to express a deep appreciation for the time that the several thousand rural households in 12 provinces of Vietnam made available in 2016 during the interviews carried out as part of this study. It is hoped that the present report will prove useful in the search for policies geared towards improving their livelihoods.

Finally, while advice has been received from many colleagues and friends, the research team takes full responsibility for any remaining errors or shortcomings in interpretation. All the usual caveats apply.

Professor Finn Tarp
Director, UNU-WIDER
9 October 2017

INTRODUCTION

Following the successful implementation of the *Doi Moi* reform programme, Vietnam has experienced outstanding economic progress, for example in aggregate output and poverty reduction. For many years, Vietnam developed much faster than the typical developing country; and since 2014 the difference in GDP per capita growth between Viet Nam and the average for the group of low and middle Income countries has widened significantly. Viet Nam is now growing by around 3.5 per cent more per year than the average low- or middle income country. Following the international financial crisis of 2008-09 Viet Nam experienced relatively high inflation rates, but they have in more recent years been controlled and are now on par with rates in other developing countries. Macro-economic stability was characteristic in the period between the 2014 and 2016 VARHS surveys.

Nevertheless, continued successful development in Viet Nam cannot be taken for granted. To maintain elevated levels of growth and macroeconomic stability, Vietnamese policymakers and citizens must constantly adapt to changing circumstances. The overall purpose of the VARHS survey is to contribute to making sure that this process is informed by high-quality, systematic, and rigorous evidence. The survey collects a broad range of detailed information about economic and social aspects of the lives of households in rural areas of 12 provinces in North, South, and central Viet Nam.

While the survey includes respondents from all parts of the country, a substantial number of households are sampled in poor upland provinces in the North-West and Central Highlands. In addition to providing general information about development in rural Viet Nam, the VARHS surveys and VARHS reports are particularly concerned about highlighting the fact that these regions continue to lag behind other regions in a number of dimensions, and to understand why that is the case.

As in the reports based on previous rounds of the VARHS survey, this report maintains a strong focus on income-generating activities and living conditions in rural areas, land relations, credit market, risk-coping and social capital (CIEM 2007, 2009, 2011, 2013, 2015). The report also focuses on labour and migration, information and trust, and constraints to the expansion of household enterprises in order to better understand the fast-changing circumstances of rural areas, where migration and non-farm enterprises play increasingly important roles. While these changes are natural components of a process of economic development, citizens and policy makers need to handle them in ways that minimizes economic inequality and social problems.

The report is based on a sample of 2,669 rural households. Most of these households are re-sampled from the 2004 VHLSS sample in rural areas of the 12 VARHS provinces, ex-Ha Tay, Phu Tho, Lao Cai, Dien Bien, Lai Chau, Nghe An, Quang Nam, Khanh Hoa, Dak

Lak, Dak Nong, Lam Dong and Long An (and from the 2002 VHLSS sample in Ha Tay, Phu Tho, Quang Nam and Long An). However, because this strategy cannot include households that came into existence after 2004, the former VHLSS-based sample is somewhat biased toward older households. To solve this problem, and to replace households that could not be re-interviewed, the sample for the 2012 VARHS was expanded by 544 new households, sampled from the 2009 census. Fifty households were sampled from the general population to replace households that could not be re-interviewed. The remaining households were sampled exclusively from households with young heads. This ensures that the VARHS sample is now representative of the rural population in each of the 12 provinces covered.[2]

The report mainly focuses on presenting results for the 2,669 households. However, in some cases it is interesting to compare results from the 2014 VARHS with results from earlier rounds of the survey. Such comparisons are based on the "panel sample" of 2,665 households for which data are available in 2014. This ensures that results from different rounds of the survey are comparable.[3]

All money value figures included in this report are inflation-adjusted to reflect changes in prices over time and differences in prices across regions. The price index used was constructed using data from the Vietnamese Household Living Standards Survey.

The outline of the report is as follows: Chapter 1 presents basic information on the report sample and on poverty dynamics, living standards, education and health. Chapter 2 explores land rights, land markets and land-related investment, while Chapter 3 analyses a key aspect (although declining share) of rural income-generating activities, i.e. agricultural production and market access. Chapter 4 investigates, in turn, the role of non-farm, household enterprises, while Chapter 5 focuses on labour and migration of household members to other areas. Credit is the topic of Chapter 6, followed by Chapter 7 that investigates the frequency and severity of economic shocks experienced by households, and how households cope with such shocks through savings, borrowing, insurance and other strategies. Chapter 8 investigates social capital and the importance of political connections, before a concluding chapter sums-up, highlights key conclusions, aiming at adding perspective.

[2] Data are also available on 945 additional households from the five provinces covered by the original Danida ARD-SPS programme, namely Lao Cai, Dien Bien, Lai Chau, Dak Lak and Dak Nong. The purpose of surveying these households was to evaluate the effects of a range of measures under the ARD-SPS programme. Since the sampling strategy used for these households was specific to the introduction of this programme these households are not included in this report. They are included in other studies based on VARHS.

[3] Due to missing data, the numbers of observations in the figures and tables presented below may in some cases differ somewhat from the numbers stated here.

CHAPTER 1 POVERTY, LIVING STANDARDS AND ECONOMIC WELL-BEING

1.1 Introduction

In this chapter, we present and discuss results on poverty, living conditions, and human capital indicators of education and health. In each table or figure we show detailed statistics disaggregated by province, gender and ethnicity of the household head, and by socioeconomic status as defined by food expenditure quintile. We also report results from 2014 where relevant in order to examine changes over time.

Poverty is a multidimensional aspect. While this chapter does not aim to undertake a detailed poverty analysis, we nonetheless examine several characteristics that are important to overall wellbeing. For this purpose, poverty dynamics are presented in Section 1.2, followed by human capital indicators such as education and health in Sections 1.3 and 1.4 respectively. Finally, living conditions such as access to safe water and garbage disposal are presented in Sections 1.5.

1.2 Poverty Dynamics

We begin with the summary statistics for gender, age and ethnicity of the household head, household size and the percentage of households that are classified as poor by MoLISA in each province in Table 1.1.[4]

We find that for the overall sample, 76.5 percent of the household heads are male. There is a lot of variation across provinces with Lai Chau having the highest proportion of households with a male head (90 percent) and Khanh Hoa the lowest (66 percent). The average age of the household head is 54 years. Households heads in Quang Nam and Long An are slightly older than the average (57 years) while those in Lai Chau and Dak Nong are younger (approximately 46 years). The average household size is 4 with Dien Bien having slightly larger households (5.41) and Phu Tho having the smallest (3.71).

The Kinh are the ethnic majority group in Vietnam, constituting about 86 percent of the population.[5] There are 53 other officially recognized ethnic groups in Vietnam, mainly residing in the mountainous Northern region and the Central Highlands. Table 1.1 shows that approximately 80 percent of the households in the VARHS sample are Kinh. This is slightly lower than the national average as the minority dominated provinces in the Northern Uplands and Central Highlands are included in the survey. For example, only 10-

[4] Acronym for Ministry of Labour, Invalids, and Social Affairs (MoLISA).
[5] It should be noted that the ethnicity of the household is based on that of the household head. Ethnicity of other household members may differ (for example, due to inter-ethnic marriages) but this information is not available under the VARHS.

14 percent of the households in Dien Bien and Lai Chau are Kinh. On the other hand, almost all the households in Ha Tay and Long An are Kinh.

Table 1.1: Summary statistics

	HH survey number	HH survey, percent	Gender of HH head, percent male	Age of HH head	Ethnicity of HH head, percent Kinh	HH size	HH classified as poor by authorities, percent
Province							
Ha Tay	578	21.66	76.12	54.66	98.96	3.92	4.93
Lao Cai	104	3.9	89.42	49.82	25.00	4.57	46.15
Phu Tho	380	14.24	75.26	55.76	81.05	3.71	12.83
Lai Chau	132	4.95	90.15	48.40	13.64	5.04	55.3
Dien Bien	123	4.61	87.80	51.03	9.76	5.41	50.42
Nghe An	224	8.39	78.57	55.48	87.50	3.86	16.52
Quang Nam	329	12.33	70.82	57.57	96.66	3.78	12.62
Khanh Hoa	107	4.01	66.36	54.35	85.98	4.05	18.87
Dak Lak	159	5.96	80.50	50.60	68.55	4.33	19.11
Dak Nong	133	4.98	75.94	48.02	73.68	4.26	16.54
Lam Dong	76	2.85	81.58	49.47	59.21	4.49	9.21
Long An	324	12.14	69.44	57.23	98.46	4.04	4.02
Total 2016	2,669	100	76.51	54.16	79.17	4.09	16.17
Total 2014 panel	2,666		77.38	52.64	79.48	4.17	12.89
Total 2016 panel	2,666		76.55	54.17	79.18	4.10	16.15

The last column of Table 1.1 the percentage of the surveyed households that are classified as poor by MoLISA. Overall, 16.17 percent of the households are classified as poor with substantial variation across provinces. Less than 5 percent of the households in Long An and Ha Tay are poor while nearly half the households in located in Lao Cai, Lai Chau, and Dien Bien are poor.

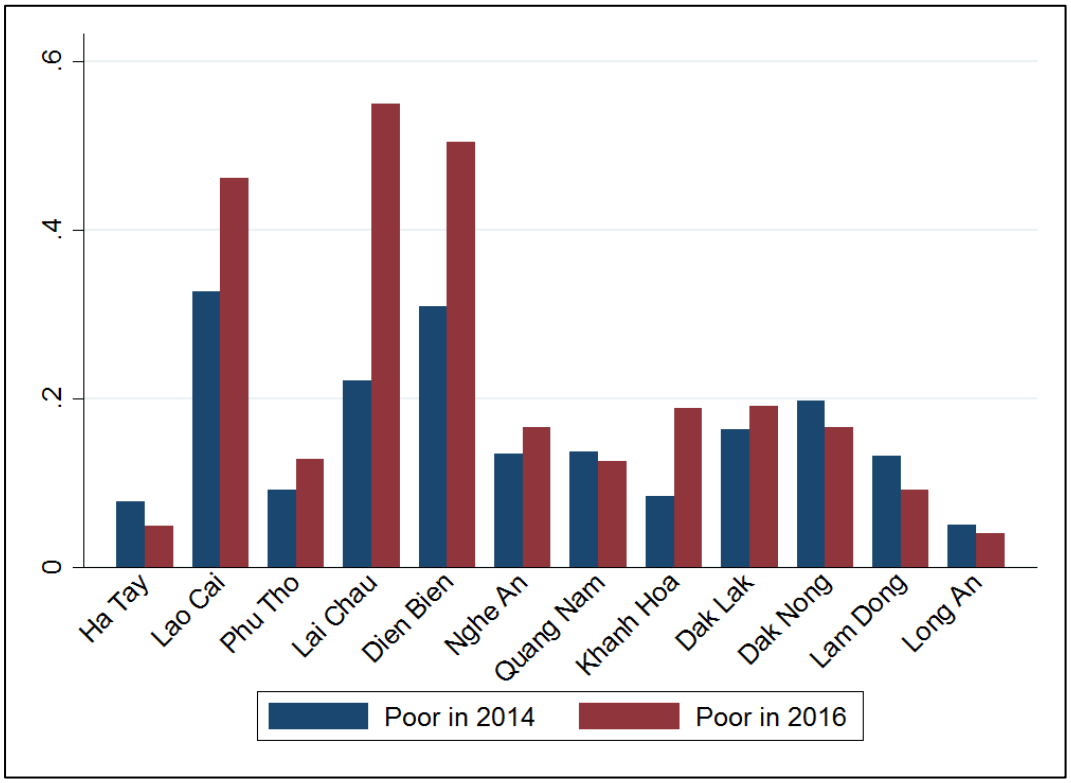
Table 1.1 also presents the same statistics for the households that were interviewed in both 2014 and 2016, thereby allowing for comparisons over time. Overall, the change in general household characteristics between 2014 to 2016 is small, which is unsurprising given that we are following the same households over time. We find that the percent of households classified as poor has increased substantially – from 12.9 in 2014 to 16.15 in 2016. However, it should be noted that this change could be due to a change in the classification process used by MoLISA in 2016.

MoLISA defines an income based poverty line at the beginning of each five-year Socioeconomic Development Plan (SEDP), for example, 2005-10, 2011-15, 2016-20. Once set, MoLISA does not adjust the poverty lines for inflation during the five-year period but it updates the list of poor households each year based on village-level consolations. This typically creates a “saw-tooth” pattern, whereby the poverty rate jumps up in the year the new poverty line is defined and then falls over time as the real value of the poverty line is eroded by inflation (for more details see Demombynes and Vu, 2015). Additionally, MoLISA decided to shift to a multidimensional approach for the period 2016-20. For the period 2011-15, the rural poverty line was 400,000 VND per capita, per month. In 2016 this was

increased to 700,000 VND per capita, per month and supplemented with deprivation in access to services such as healthcare, education, housing, etc.

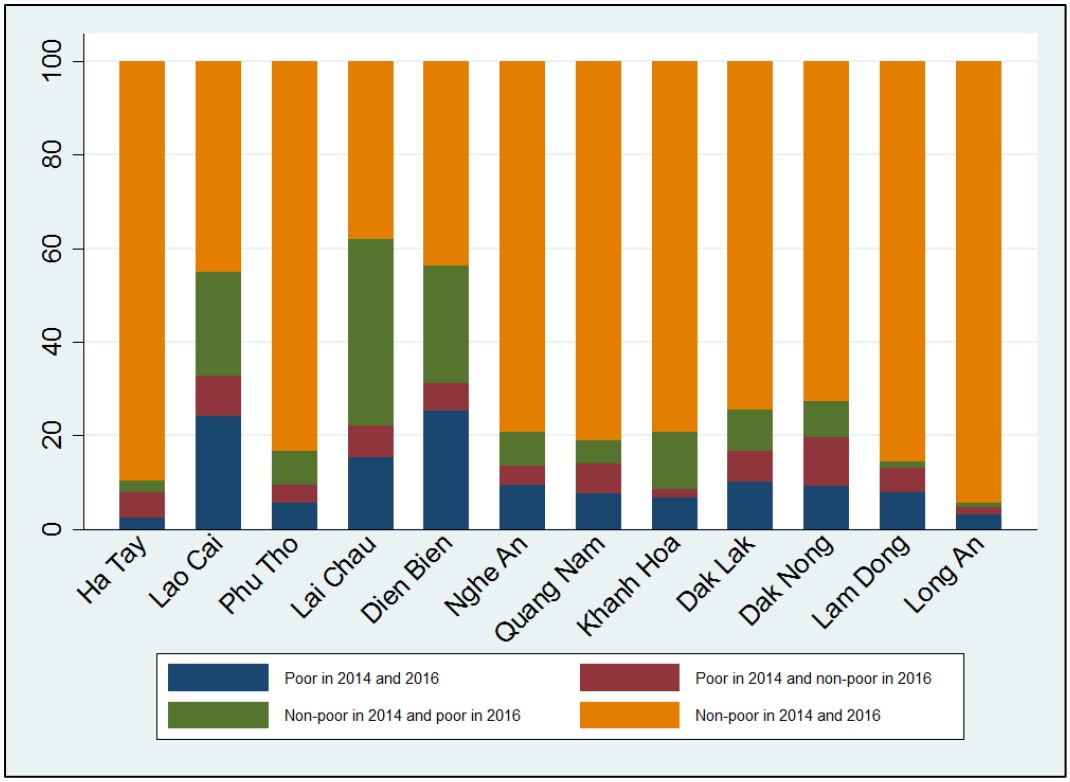
We explore this change in greater detail in Figures 1.1, 1.2 and 1.3. Figure 1.1 shows the change in poverty status at provincial level. The figure shows that not all of the sampled provinces saw an increase in poverty rates, even as poverty lines have been raised by the authorities. There is an upward trend in poverty in the majority of the sampled provinces, but five provinces show a downward trend, namely Ha Tay, Quang Nam, Lam Dong, Dak Nong and Long An.

Figure 1.1: Changes in poverty status between 2014 and 2016 by province (percent)



In Figure 1.2 we explore the dynamics of transition in and out of poverty across the provinces. Excluding Lai Chau and Dien Bien, we find that the poverty status of most of the households remains the same in all the other provinces (that is, either poor or non-poor in both 2014 and 2016). But in both Lai Chau and Dien Bien, a high share of households move from non-poor to poor status over the two-year period. Dak Lak and Dak Nong have a high ratio of households moving from poor to non-poor between survey rounds.

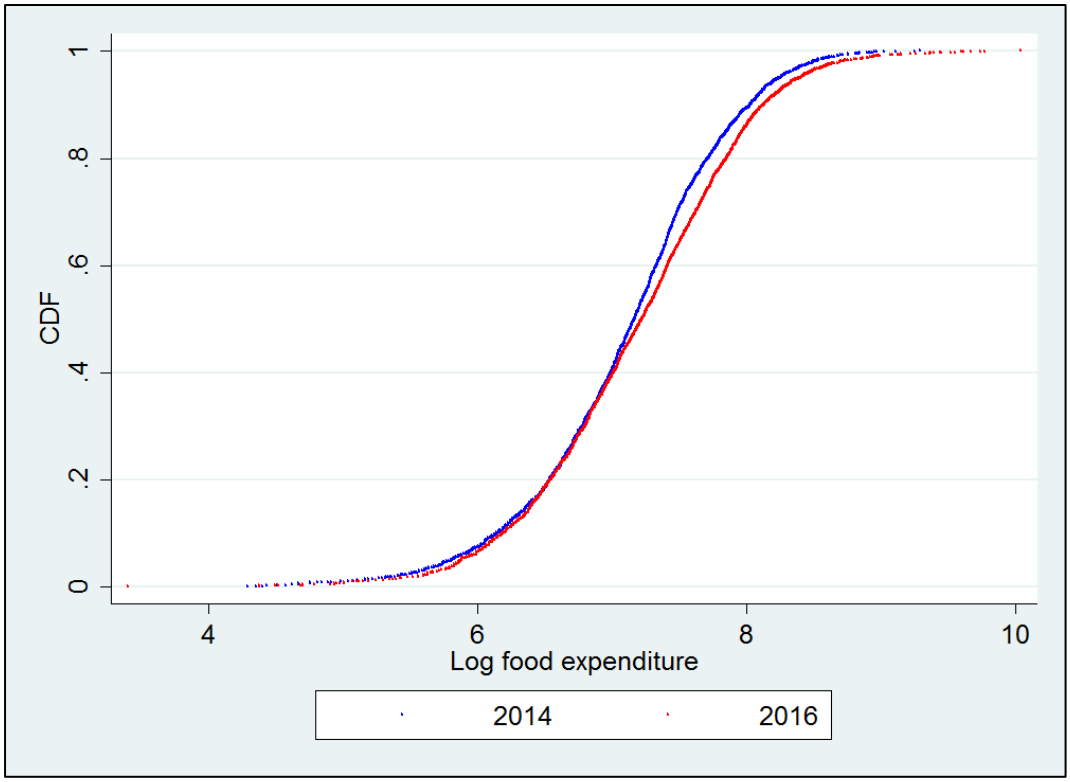
Figure 1.2: Poverty dynamics between 2014 and 2016 by province (percent)



Next, we investigate changes in poverty by looking at changes in the distribution of households' food consumption expenditure between 2014-2016. Figure 1.3 shows the cumulative distribution of real food consumption expenditure for 2014 and 2016. To minimize the influence of households with exceptionally high or low recorded consumption expenditure, the natural logarithm is used. A Kolmogorov-Smirnov test for equality of distribution functions rejects that both distributions are the same. The distribution of (log) food consumption expenditure in 2016 lies to the right of that in 2014, indicating that average incomes might have increased between survey rounds.

As mentioned above, in addition to an increase in the poverty line, MoLISA also took a multidimensional approach to poverty in 2016. In the sections that follow, we explore changes in access to essential services such as education, health, adequate housing, clean water supply, sanitation, etc. In the VARHS data we do not find a consistent decline in access to these services between 2014-2016. Taken together, the VARHS data therefore suggests that the increase in the share of households classified as poor by MoLISA could be due to the change in the classification process, rather than to changes in actual poverty levels.

Figure 1.3: Cumulative distribution of log food expenditure in 2014 and 2016



1.3 Education

Household welfare is not entirely determined by monetary indicators such as income and expenditures. Taking a multidimensional approach, we assess household welfare in rural Vietnam on a number of fronts. In this section, we present statistics on education. Table 1.2 presents data on formal education of the head of the household in 2016. Overall, the percentage of household heads that cannot read or write is only 6.8 percent (column 1). The mountainous provinces of Lao Cai and Dien Bien have higher rates of illiteracy compared to the other provinces. There is also variation among those that cannot read or write across ethnicity with non-Kinh heads having a higher prevalence of illiteracy (19 percent) compared to Kinh household heads (3.5 percent). Female household heads are also more likely to be illiterate.

We find that for the sample overall, 2.5 percent of household heads can read and write but never went to school, 16 percent left school after completing primary school, 46 percent of the sample completed lower secondary school, and nearly one-third of the sample managed to complete upper secondary school. More male and Kinh household heads completed either lower or upper secondary school relative to female and non-Kinh household heads, respectively. For example, 32 percent of Kinh heads completed upper secondary school compared to 13.7 percent of non-Kinh heads. The education gap across ethnic groups has remained consistent since the start of the VARHS survey in 2006. [6]

[6] See Singhal and Beck (2015) for ethnic gaps in education over 2006-2014 in Vietnam.

Finally, as expected the level of education increases as we move up the food expenditure quintiles.

In the last rows of Table 1.2 we compare educational level of the head of the household in 2014 and 2016. Table 1.2 indicates that for the panel of households surveyed in both 2014 and 2016, there has been a slight increase in the educational status over the two-year period. Relative to 2014, in 2016 the percentage of heads who cannot read and write and those who only went to primary school declined whereas the percentage to heads upper secondary school increased. This is likely due to a change in the household head from father to son between the two rounds.

Table 1.2: Highest formal education level of household head in 2016

	Cannot read and write, percent	Completed lower primary, percent	Completed lower secondary, percent	Completed Upper secondary, percent	Can read and write but never went to school, percent
Total 2016	6.78	15.96	46.61	28.21	2.44
Province					
Ha Tay	2.42	8.3	56.75	31.14	1.38
Lao Cai	23.08	21.15	31.73	21.15	2.88
Phu Tho	1.32	8.16	53.16	36.05	1.32
Lai Chau	15.91	29.55	34.09	15.15	5.30
Dien Bien	26.83	19.51	30.89	18.70	4.7
Nghe An	2.68	11.16	45.98	38.84	1.34
Quang Nam	5.78	18.54	49.85	23.4	2.43
Khanh Hoa	8.41	27.1	33.64	25.23	5.61
Dak Lak	6.29	15.09	47.17	26.42	5.03
Dak Nong	5.26	8.27	54.14	32.33	0.00
Lam Dong	15.79	17.11	40.79	21.05	5.26
Long An	6.48	30.56	36.11	24.38	2.47
Gender of HH head					
Female	10.37	25.52	40.67	18.34	5.1
Male	5.68	13.03	48.43	31.24	1.62
Ethnicity of HH head					
Non-Kinh	19.24	22.84	39.03	13.67	5.22
Kinh	3.5	14.15	48.60	32.04	1.7
Food expenditure quintile					
Poorest	14.61	23.6	43.45	14.61	3.75
2nd poorest	8.24	18.91	44.57	23.6	4.68
Middle	6.37	16.29	47.19	29.21	0.94
2nd richest	1.68	11.96	50.09	34.39	1.87
Richest	3.01	9.02	47.74	39.29	0.94
Total 2014 panel	8.66***	18.23**	46.51	23.67***	2.66
Total 2016 panel	6.79***	15.98**	46.59	28.21***	2.44

Note: *Difference between 2014 and 2016 is significant at 10 percent level; ** significant at 5 percent level.*** significant at 1 percent level. N 2016= 2,669 (N 2014 panel =2,666, N 2016 panel = 2,666)

In Table 1.3 we further investigate educational status of household heads by looking at the level of professional education obtained by the head. Table 1.3 presents statistics of professional education of head in 2016 by province, gender, ethnicity, and household food expenditures. Table 1.3 shows that most the household heads - almost 77 percent - have no professional education and approximately 13.5 percent have some short-term vocational training. As with formal education, discussed above, we see similar patterns in variations across provinces, ethnicity, gender and poverty levels.

The percentage of heads without any professional education is higher for female heads and ethnic minorities. For example, while 73 percent of household heads who are Kinh do not have any professional education, for the non-Kinh this is almost 91 percent. Once again, the percentage of households without any professional education is higher in the northern mountainous provinces such as Lau Cai and richer households are less likely to have no diplomas.

On comparing the professional educational level of the heads that are part of the panel, we find a statistically significant increase in the percentage of heads that have no professional education. Heads reporting having no diploma increased from 72.4 percent in 2014 to 76.8 percent in 2016. Correspondingly, there was decline in the percentage of households with some short-term training or technical high school education in 2016 relative to 2014.

Table 1.3: Highest professional education level of household head in 2016

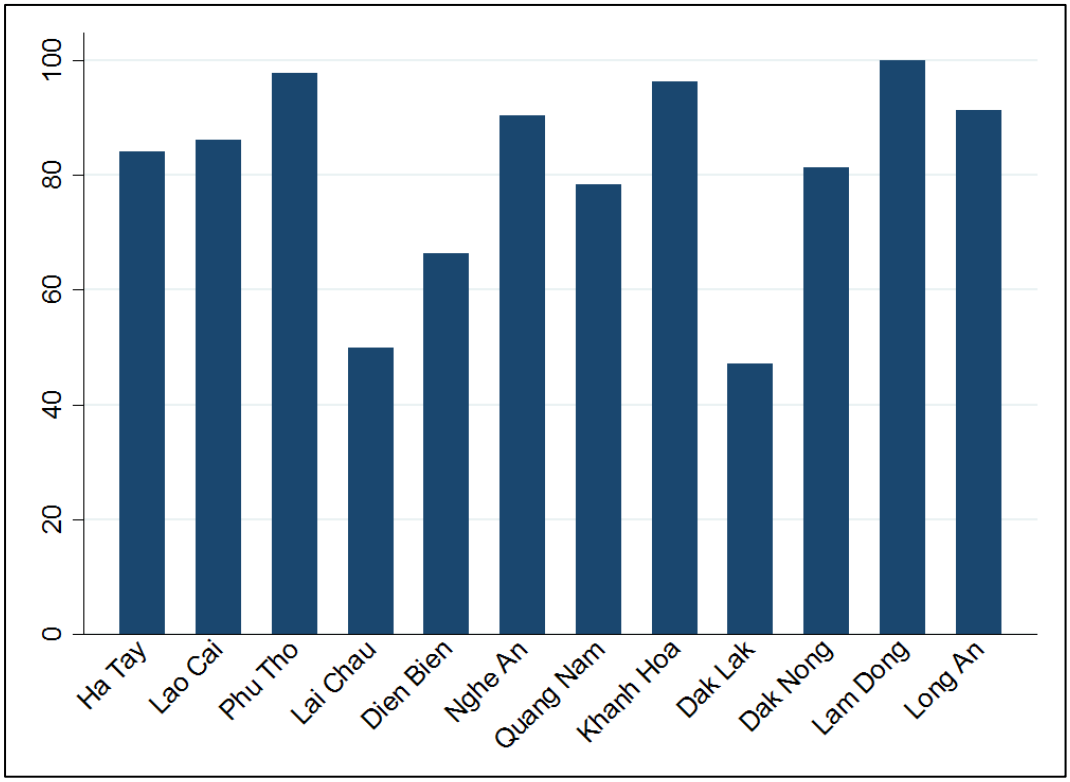
	No Diploma, percent	Short term Vocational training, percent	Long term Vocational training, percent	Professional high school, percent	College or University, percent
Total 2016	76.85	13.53	1.99	3.82	3.82
Province					
Ha Tay	59.00	30.62	2.60	3.11	4.67
Lao Cai	85.58	13.46	0.00	0.96	0.00
Phu Tho	76.58	8.16	2.89	6.58	5.79
Lai Chau	92.42	0.76	0.76	2.27	3.79
Dien Bien	86.99	2.44	2.44	4.88	3.25
Nghe An	68.30	16.52	4.02	4.02	7.14
Quang Nam	84.50	7.90	1.52	2.43	3.65
Khanh Hoa	85.05	5.61	0.93	6.54	1.87
Dak Lak	88.05	6.92	1.89	2.52	0.63
Dak Nong	78.95	8.27	1.50	6.02	5.26
Lam Dong	88.16	7.89	1.32	2.63	0.00
Long An	82.41	11.73	0.62	3.40	1.85
Gender of HH head					
Female	84.37	7.18	2.07	2.87	3.51
Male	74.53	15.48	1.96	4.11	3.92
Ethnicity of HH head					
Non-Kinh	90.65	4.68	1.44	2.34	0.90
Kinh	73.21	15.85	2.13	4.21	4.59
Food expenditure quintile					
Poorest	89.33	7.12	0.56	1.69	1.31
2nd poorest	79.59	12.73	1.87	3.56	2.25
Middle	75.47	16.1	1.69	4.31	2.43
2nd richest	68.79	17.2	2.62	4.86	6.54
Richest	71.05	14.47	3.2	4.7	6.58
Total 2014 panel	72.39***	16.35***	2.4	5.03**	3.83
Total 2016 panel	76.86***	13.50***	1.99	3.83**	3.83

Note: *Difference between 2014 and 2016 is significant at 10 percent level; ** significant at 5 percent level.*** significant at 1 percent level. N 2016= 2,669 (N 2014 panel =2,666, N 2016 panel = 2,666)

While, so far, we have only looked at the educational status of the household heads, in 2016 the VARHS survey also asked if the households heads were satisfied with the education services that were available for their children. There are significant inter-province differences in the percentage of households that are satisfied with education of

children. These are presented in Figure 1.4. While there is near universal satisfaction in provinces such as Phu Tho and Lam Dong, only about half the households in Lai Chau and Dak Lak report that they find educational services for their children to be adequate.

Figure 1.4: Satisfaction with education of children (percent)



1.4 Health and Wellbeing

In this section, we present statistics on wellbeing as measured by health status. Quality of health is accessed on three fronts – illness suffered among household members during the two weeks prior to being surveyed, the number of days lost due to illness in the 12 months preceding the survey, and whether the household considers the current availability of healthcare sufficient for their needs or not.

The first column of Table 1.4 presents the percentage of household that reported at least one family member to be sick in the 2 weeks preceding the survey. Overall, 30 percent of the households in the sample had one or more sick household members, but this number varies a lot across province and food expenditure group.

The poor are more likely to have had a sick member of the household (34 percent) compared to the richest group of households (28 percent). Lai Chau reported the lowest number of households with a sick member (10 percent) while Phu Tho reported the highest (42.6 percent). Female-headed households are more likely to have had one or more sick family members compared to male-headed households. The percentage of Kinh households that had a sick member is also higher than that of other ethnic minority

households. Finally, on comparing results from the 2014-2016 panel, we find that the probability of at least one sick household member increased by approximately 5 percentage points between the two years and this increase is statistically significant.

Table 1.4: Health

	HH with at least 1 member sick – in past 2 weeks, percent	Days lost due to sickness in past 12 months, per capita	Healthcare sufficient, percent
Total 2016	30.12	10.99	69.69
Province			
Ha Tay	30.62	11.46	67.85
Lao Cai	11.54	4.23	76.09
Phu Tho	42.63	15.09	75.34
Lai Chau	9.85	4.47	37.88
Dien Bien	33.33	10.06	49.57
Nghe An	39.29	13.07	80.91
Quang Nam	27.66	9.53	61.84
Khanh Hoa	17.76	7.21	97.20
Dak Lak	18.24	8.84	32.91
Dak Nong	20.30	3.73	71.54
Lam Dong	31.58	8.67	98.68
Long An	37.35	16.38	85.98
Gender of HH head			
Female	40.83	16.32	72.94
Male	26.84	9.35	68.71
Ethnicity of HH head			
Non-Kinh	23.56	7.09	55.28
Kinh	31.85	12.02	73.41
Food expenditure quintile			
Poorest	34.08	16.53	61.39
2nd poorest	29.78	12.40	74.71
Middle	29.03	10.13	75.91
2nd richest	29.35	7.96	70.45
Richest	28.38	7.92	65.69
Total 2014 panel	25.62***	10.38	NA
Total 2016 panel	30.08***	10.98	NA

Note: *Difference between 2014 and 2016 is significant at 10 percent level; ** significant at 5 percent level.*** significant at 1 percent level. N 2016= 2,669 (N 2014 panel =2,666, N 2016 panel = 2,666)

The second column of Table 1.4 reports the average number of days lost per family member due to sickness in the 12 months preceding the survey.[7] Overall, on average households lost almost 11 days per capita due to sickness in the year preceding the survey. Once again, there are substantial differences across provinces, gender and ethnicity of the household head and poverty levels. As expected, poor households report losing more days due to sickness than richer households. Female-headed households also lose more days than male-headed households.

In the last column of Table 1.4 we present the percentage of households that are satisfied with the availability of health services. Overall, we find that nearly 70 percent of the households report the current level of healthcare to be sufficient for their needs. However, the level of satisfaction is extremely low in Dak Lak and Lai Chau (32.9 and 37.8 percent,

[7] We exclude family members aged 6 or below when calculating the number of days lost per capita due to sickness.

respectively), whereas households in Lam Dong and Khanh Hoa report near universal levels of satisfaction. Kinh households are more likely to find healthcare to be adequate than ethnic minority households. Satisfaction levels also increase with income, though not linearly. Put together, the results indicate that the households in the northern provinces – a majority of whom are ethnic minority – continue to lag behind in access to healthcare (also see Tran et al., 2016).

1.5 Living conditions

In this section, we consider important aspects of the living conditions of rural households, such as the quality of housing, access to services such as safe water, good sanitation and energy use, and distance to schools, hospitals and roads.

Quality of housing

Another measure of economic wellbeing is the quality of housing. The VARHS survey collects data on the material used for constructing residential building floors, walls, and roofs. Solid material such as cement, brick, and concrete is considered superior building materials.

Table 1.5 presents statistics on housing. Among the provinces, Dien Bien has the lowest prevalence of households with good quality housing whereas households in Ha Tay on average live in much higher quality buildings; for example, 97.4 percent of the households from Ha Tay have solid floors compared to less than 11 percent of houses in Dien Bien. Female headed households are more likely to have solid floor, walls, and roofs. Comparing households across ethnic groups we find large gaps between the quality of houses belonging to the Kinh relative those belonging to minority groups. As with many of the other living conditions, the richest households are better off as they have a higher share of houses with good quality floor, walls, and roof.

If we compare the households that are part of the panel we see that the overall quality of housing has increased slightly for floor quality. In 2014, almost 78 percent of households had high-quality floors and in 2016 this has increased to 80 percent and this increase is statistically significant. The differences in wall quality are not statistically significant between the two rounds. However, we find that the percentage of households with high-quality roofs declined significantly between the two rounds from 84.5 percent in 2014 to 81.6 percent in 2016.

Table 1.5: Quality of housing (percent)

	Floor in cement brick or marble / tiles, percent	Outer walls in brick, stone or concrete, percent	Roof in concrete, cement, galvanized iron or tiles, percent
Total 2016	80.11	87.15	81.64
Province			
Ha Tay	97.40	98.96	94.46
Lao Cai	39.42	66.35	27.88
Phu Tho	87.63	95.53	67.89
Lai Chau	16.67	25.76	56.06
Dien Bien	10.57	14.63	39.84
Nghe An	91.96	93.30	94.64
Quang Nam	94.53	98.78	96.35
Khanh Hoa	97.20	97.20	99.07
Dak Lak	71.07	92.45	89.31
Dak Nong	72.93	93.98	96.24
Lam Dong	85.53	93.42	96.05
Long An	83.33	89.20	75.62
Gender of HH head			
Female	85.65	91.87	84.05
Male	78.40	85.70	80.90
Ethnicity of HH head			
Non-Kinh	34.71	51.08	56.47
Kinh	92.05	96.64	88.26
Food expenditure quintile			
Poorest	62.55	69.85	68.35
2nd poorest	73.97	83.52	79.96
Middle	84.46	91.20	82.58
2nd richest	88.79	94.77	88.79
Richest	90.79	96.43	88.53
Total 2014 panel	78.17*	87.85	84.55***
Total 2016 panel	80.12*	87.17	81.66***

Note: *Difference between 2014 and 2016 is significant at 10 percent level; ** significant at 5 percent level.*** significant at 1 percent level. N 2016= 2,669 (N 2014 panel =2,666, N 2016 panel = 2,666)

Access to services

In this section, we report the percentage of households with access to key services that are proxies for environmental sanitation and health - safe drinking water, good toilets and garbage disposal. We consider a household as having a 'good' toilet if it has an improved toilet facility such as a flush, squat, or double-vault compost toilet. A household is considered to have good water access if the main source of cooking and drinking water is reported to be tap, well or a tank. Good garbage disposal includes households where garbage is either collected by someone or taken to a waste site by the household.

As the data presented in the first column of Table 1.6 show, access to a good toilet varies greatly by provinces. While 98 percent of households in Ha Tay have access to a good toilet, it is alarmingly low in Lai Chau (34 percent). While there is not much of a difference by the gender of the household head, difference across ethnicity groups is stark. We find that 90 percent of Kinh households have access to good toilets compared to 55 percent of non-Kinh households. This gap between the ethnic groups has been consistent over time and shows no signs of narrowing (Singhal and Beck, 2015).

Similar differences appear for access to safe water and good garbage disposal. While nearly all the households have access to safe water in provinces such as Khanh Hoa and

Dak Nong, only about half the households in Lao Cai and Dien Bien have access to safe water for cooking and drinking. The inter-province differences are even starker when we look at garbage disposal in the last column of Table 1.6. While 90 percent of households in Ha Tay dispose their garbage safely, only 5 to 7 percent of households in Dien Bien and Lai Chau do so. A majority of the households in these provinces continue to burn their garbage. Once again, there a large gaps between the ethnic majority and minority households.

Finally, for three services considered in Table 1.6, we find that access increases as we move up the food expenditure quintiles. On turning to the panel data, we find that there have been small, significant improvements with respect to access to good toilets and garbage disposal between 2014 and 2016.

Table 1.6: Access to toilets, water and garbage disposal (percent)

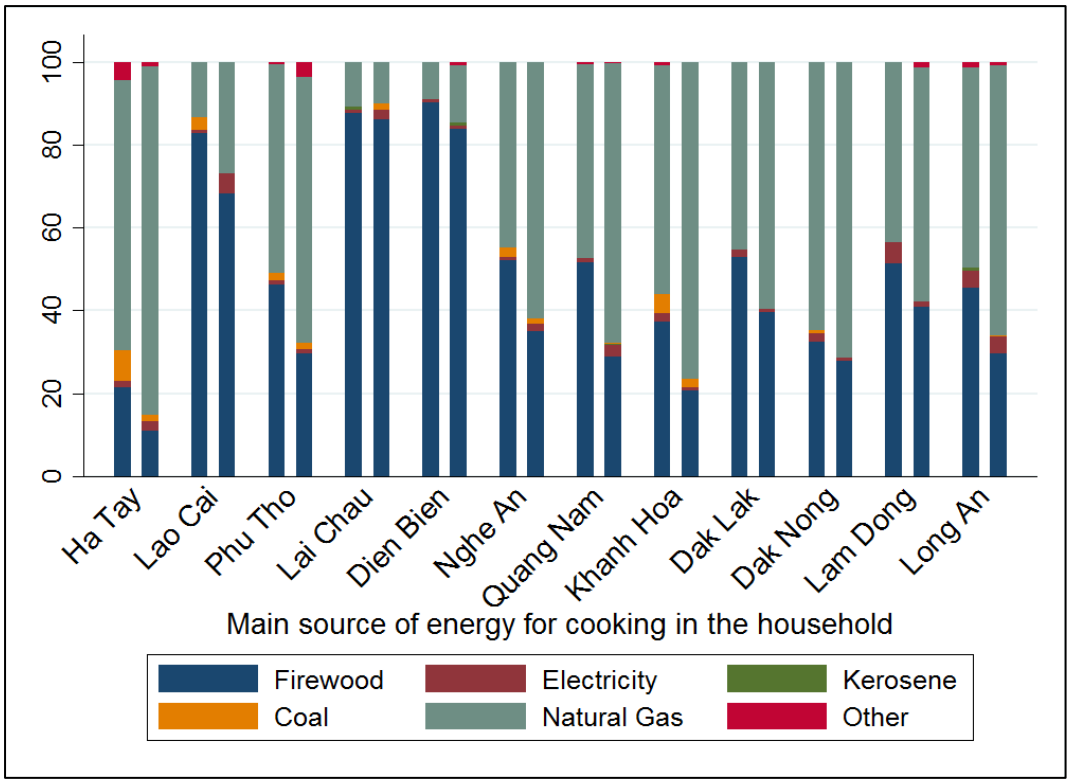
	Good toilet, percent	Good water, percent	Good garbage disposal, percent
Total 2016	82.88	85.24	49.05
Province			
Ha Tay	98.27	81.14	90.83
Lao Cai	65.38	51.92	40.38
Phu Tho	93.42	93.16	37.37
Lai Chau	34.09	56.82	7.58
Dien Bien	55.28	52.03	4.88
Nghe An	84.38	84.38	52.68
Quang Nam	94.22	95.44	84.19
Khanh Hoa	83.18	99.07	35.51
Dak Lak	87.42	98.74	23.27
Dak Nong	82.71	99.25	31.58
Lam Dong	76.32	94.74	14.47
Long An	65.74	89.20	18.83
Gender of HH head			
Female	83.41	90.11	53.27
Male	82.71	83.74	47.75
Ethnicity of HH head			
Non-Kinh	54.68	62.77	11.69
Kinh	90.30	91.15	58.87
Food expenditure quintile			
Poorest	65.92	74.72	30.52
2nd poorest	79.21	82.96	45.51
Middle	86.14	89.14	51.69
2nd richest	90.65	89.53	60.93
Richest	92.48	89.85	56.58
Total 2014 panel	80.95*	85.71	46.44*
Total 2016 panel	82.90*	85.22	49.02*

Note: *Difference between 2014 and 2016 is significant at 10 percent level; ** significant at 5 percent level.*** significant at 1 percent level. N 2016= 2,669 (N 2014 panel =2,666, N 2016 panel = 2,666)

Another important service is the availability of improved energy sources for cooking. In particular, a movement away from the use of firewood towards natural gas or electricity would be considered an improvement in living conditions. Figure 1.5 presents the differences in the main energy source for cooking used by households across provinces. For each province, the first column depicts the main energy sources for 2014 and the second for 2016.

As can been seen from the figure, there has been a decline in the reliance on firewood as the main source of energy for cooking. Overall, the percentage of households relying on firewood fell from 47 percent in 2014 to 33 percent in 2016. This declining trend is also evident in all the provinces, except Lai Chau where approximately 86-88 percent of the households continue to reply on firewood for cooking. The use of firewood was the lowest in Ha Tay in 2014 (21 percent) and dropped even lower in 2016 (11 percent). Concurrently, there has also been an increase in the use of natural gas for cooking – from 47.6 percent in 2014 to 63 percent in 2016 for the balanced panel sample.

Figure 1.5: Distribution of the main energy use for cooking (percent)



We next consider distance to important services – hospital, primary school, all-weather road, and the People's Committee. Table 1.7 provides statistics on access to these services measured by the median distance in km between the household and the nearest point of service provision.

There is slight variation across provinces in distance to primary school, an all-weather road, and People's Committee Office. The median distance to the nearest primary school is 1 km. The households in Khanh Hoa, Lam Dong and Long An have the largest distance of 2 km to primary school. The median distance to the People's Committee Office is 1.5 km. Households from Lao Cai, Khanh Hoa, and Lam Dong have the largest distance of 2.5 km. There is almost no variation across gender and ethnicity of the household head or the food expenditure quintiles.

However, the median distance to the nearest hospital varies quite a bit. Households in Lai Chau are about 15 km from the nearest hospital while households from Ha Tay report a relatively short average distance of 6 km. The median for all surveyed households is 8 km. These number have not changed much between the 2014 and 2016 rounds (not reported here).

Table 1.7: Distance to school, hospital, all-weather road, and People's Committee Office (in Km, median)

	Distance to primary school	Distance to hospital	Distance to all weather road	Distance to People's Committee Office
Total 2016	1	8	0.5	1.5
Province				
Ha Tay	1	6	0.5	1
Lao Cai	1	12	1	2.5
Phu Tho	1	8	0.5	1
Lai Chau	1	15	0.45	1
Dien Bien	1.5	10	1	2
Nghe An	1	8	0.5	1.2
Quang Nam	1.5	7	0.5	2
Khanh Hoa	2	8.5	0.5	2.5
Dak Lak	1.5	12	0.5	2
Dak Nong	1.5	12	0.3	2
Lam Dong	2	11	0.5	2.5
Long An	2	7	1	2
Gender of HH head				
Female	1	7	0.5	1.5
Male	1	8	0.5	1.5
Ethnicity of HH head				
Non-Kinh	1.2	15	0.5	2
Kinh	1	7	0.5	1.5
Food expenditure quintile				
Poorest	1	10	0.8	2
2nd poorest	1.35	8	0.5	2
Middle	1	8	0.5	1.5
2nd richest	1	7.75	0.5	1.1
Richest	1	7	0.5	1.5

Note: N 2016= 2,669

1.6 Conclusion

In this chapter, we presented key information on the important characteristics of the rural households surveyed under the VARHS in 2016 and compare them to the 2014 data. The results indicate that overall, households in the mountainous Northern Uplands – Lao Cai, Dien Bien and Lai Chau – lag behind on a number of indicators of welfare such as poverty mobility, access to health education and other services.

There was an increase in the percentage of households that were officially classified as poor in 2016, relative to 2014, but the evidence suggests that might be due to a change in the classification process used by the government rather than a decline in incomes. There was a slight increase in highest formal education of the household head and a corresponding decrease in technical education, quite likely due to a change in household heads. There was a slight increase in the probability of having a sick household member

between the two years as well. On the other hand, between 2014 and 2016 there was an increase in the provision of some services such as good toilets and natural gas for cooking. Substantial differences continue to persist across ethnic groups and we also witness variation across food expenditure quintile with poorer households lacking far behind richer households in terms of living conditions.

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CHAPTER 2 LAND

Vietnam has a population of 92.7 million citizens and 31 million hectares of land, or 0.33 hectares per capita. This is number is lower than in most other countries. Only 35 percent of the land area (about 10.9 million ha) is agricultural land. Even though this number has increased significantly in recent decades, as marginal lands have gradually been taken into use, land remains a scarce resource.[8] For this reason, the pattern and regulation of land use is an important issue. Furthermore, land is not only important for agriculture, forestry and aquaculture, but also for the processes of urbanization and industrialization. This chapter deals with several issues related to land, such as land distribution and fragmentation, land titling, and households' participation in land markets. The VARHS survey includes a detailed land module, collecting data on land owned and rented by the household, and on land plots that the household parted with in recent years. Information on land size, location, source of acquisition, investment status, property rights and several other variables is collected and we exploit this chapter primarily builds in this data.

2.1 Distribution and Fragmentation of Land

This section will provide information on the distribution and fragmentation of land owned by households (most agricultural land is operated by household, but Commune People's Committees, other domestic agencies and organizations, and foreign individuals and organizations, also use agricultural land).

Table 2.1 displays the number of plots and the total size of land owned by households, the average plot size, as well as the land fragmentation measured as the number of plots per household. Column 1 provides information about the share of households who do not own land. Overall, 11.5 percent of the sampled households do not own land, which is an estimated increase of 2.3 percentage points from 2014.

Landlessness is significantly higher among female-headed- than among male-headed households. In total, 19.0 percent of the female-headed households do not own land, compared to only 9.3 percent of the male-headed. Among different socioeconomic groups, there is no clear pattern in terms of landlessness. Richer households are landless to a similar extend as poorer ones. Thus, landlessness does not appear to be correlated with poverty. One plausible implication is that income from land makes a larger contribution to the total income of the poorer households than of the richer ones. It also confirms the findings of Ravallion and van der Walle (2008). Households do not give away land because of an economic shock, but to enter other non-farm economic activities. This being said, lack of access to land is likely to be a significant source of distress among those who are

[8] Source: World Bank, http://data.worldbank.org/indicator/AG.LND.AGRI.K2?locations=VN.

both landless and poor. Land ownership is a form of insurance, in the sense that it ensures at least a minimal amount of food and income, in the absence of complete harvest failure. Securing the fragile livelihoods of poor households without access to land is an important policy concern.

Table 2.1: Distribution and fragmentation of owned land

	Landless percent	Total agr. Land (sqm), mean	Total agr. land (sqm), Median	Annual land (sqm), mean	No. of plots per HH, mean	No. of plots per HH, max	Plots sharing border w. other plots, percent	Plot Size (sqm) mean	Plot Size (sqm), median
Total 2016	11.5	7,744	3,100	4,067	3.9	18	11.2	1,917	600
Province									
Ha Tay	8.0	2,293	1,460	1,675	3.7	16	4.0	649	360
Lao Cai	3.9	10,072	6,260	6,245	4.4	13	4.0	2,243	1,080
Phu Tho	10.4	3,818	2,160	1,776	5.5	18	15.9	683	356
Lai Chau	9.2	7,183	6,200	6,632	4.1	13	5.9	1,716	1,300
Dien Bien	4.1	12,868	9,275	9,157	5.7	15	7.8	2,254	1,000
Nghe An	12.6	6,942	3,200	3,806	4.1	13	8.2	1,613	650
Quang Nam	10.1	3,946	2,400	2,352	3.9	14	6.6	995	514
Khanh Hoa	32.7	9,003	4,325	5,052	2.7	9	7.7	3,298	1,348
Dak Lak	6.3	13,640	10,000	4,020	3.2	11	19.5	4,198	2,450
Dak Nong	8.3	22,101	16,794	2,347	2.8	8	11.7	7,835	4,500
Lam Dong	4.0	14,682	9,300	1,307	2.9	9	12.2	4,953	3,000
Long An	25.1	14,020	5,500	11,676	2.6	14	30.0	5,381	2,400
Household head									
Female	19.0	5,120	2,130	3,045	3.4	16	10.7	1,487	500
Male	9.3	8,459	3,480	4,345	4.1	18	11.4	2,015	660
Food expenditure quintile									
Poorest	10.8	6,808	3,770	4,337	3.8	18	11.3	1,724	750
2nd poorest	13.6	7,258	3,437	3,820	3.7	12	10.1	1,928	759
Middle	9.2	8,533	3,196	4,309	3.9	16	9.8	2,129	550
2nd richest	11.8	7,938	2,682	3,611	4.1	16	11.6	1,904	570
Richest	12.3	8,160	2,792	4,245	4.2	17	13.4	1,890	511
Total 2014	9.2	8,048	3,300	4,295	4.2	25	11.0	1,913	580

N 2016 = 2,650 households; N 2016 plots = 11,277 (N 2014 = 2,650 Households; N 2014 plots = 12,017)

Landlessness varies across the twelve provinces and appears to be significantly higher in the Southern ones. Especially Khanh Hoa and Long An have high shares of landless households with 32.7 and 25.1 percent respectively. Lao Cai, Dien Bien, and Lam Dong have the lowest shares of landless households with about 4 percent each.

Column 2 and 3 show the average amount of agricultural land households own. Again, we can observe differences between North and South. Both the mean and the median size are larger in the Southern provinces compared the Northern ones. Looking at income groups, column 3 shows that richer households own less agricultural land than poorer households do. This further supports the assertion that poorer households are more

dependent on agricultural income. However, for the mean size that pattern is reversed, suggesting that there are some outliers among the richer households owning a very large amount of land. Female-headed households have on average less land than the male-headed do.

Column 5 shows a measure of land fragmentation, namely the average number of plots per household. Land is significantly more fragmented in the Northern provinces. Furthermore, the average plot size is significantly higher in the Southern provinces (columns 8 and 9). Both can be partly explained by the fact that Northern Vietnam is more densely populated than the South, although the different histories of market institutions and Communist rule of course also play a role, see e.g. Khai et al (2013). Overall, the average number of plots per households is 3.9, a slight decrease from 2014 (4.2).

Table 2.2 shows a transition matrix for landlessness among households between 2014 and 2016. It shows that between 2014 and 2016, only 7.3 percent of the sampled households have been landless all the time. The share of households who has never been landless is 86.8 percent. The fact that six percent of household changed their landlessness status over a two-year period shows that the land distribution is not entirely static.

Table 2.2: Landlessness transition matrix, 2014-2016 (percent)

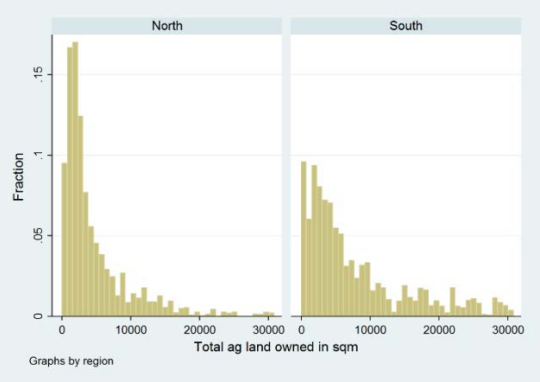
Group	Between 2014 and 2016
Never landless	86.8
Became landless	4.2
Escaped landlessness	1.7
Always landless	7.3
Number of households	2,628

In Figure 2.1, the land distribution is displayed in more detail, comparing between years (2016 and 2014) and regions (North and South). Panel (a) shows that a clear majority of total land holdings is rather small. However, we can observe clear differences between the North and South. In the latter, there is a much higher share of holdings with a size of more than 10,000 square meters compared to the Northern regions, where the clear majority of holdings do not exceed 5,000 square meters. Panel (b) shows the total land distribution over time. We can see that the share of very small holdings has increased between the two observations periods.

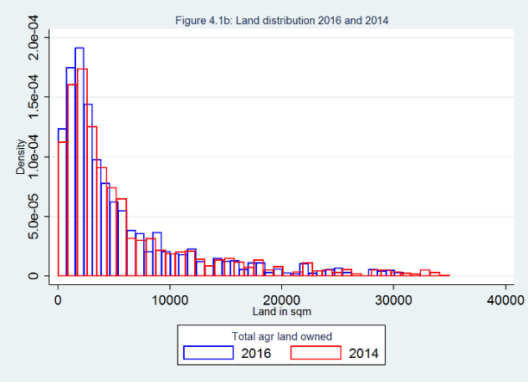
The panels (c) and (d) show the Lorenz curves of the agricultural land distribution. Panel (c) shows that agricultural land seems to be more equally distributed in the Northern provinces than in the Southern ones. Across years (panel (d)), the distribution stayed almost constant. The bottom two panels show the distribution of annual land. Here we can see a much larger difference between the regions. Annual land is more equally distributed in the North than in the South. Again, across time, there is almost no change in distribution.

Figure 2.1: Total and regional land distribution

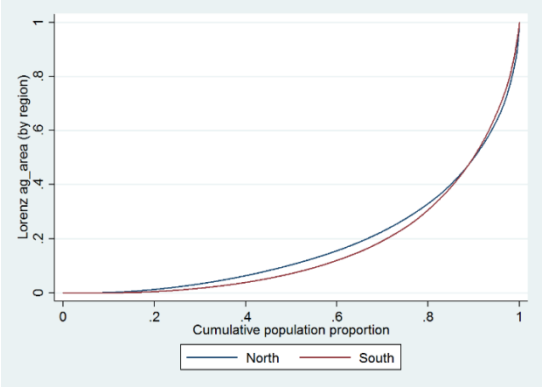
a. *Total* Land distribution 2016 (lower 95 percent percentile) by region



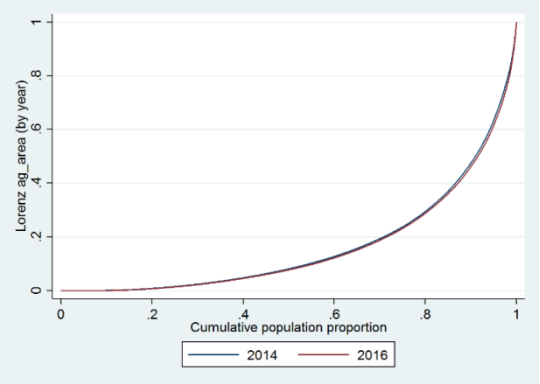
b. *Total* Land distribution 2016 and 2014 (lower 95 percent percentile)



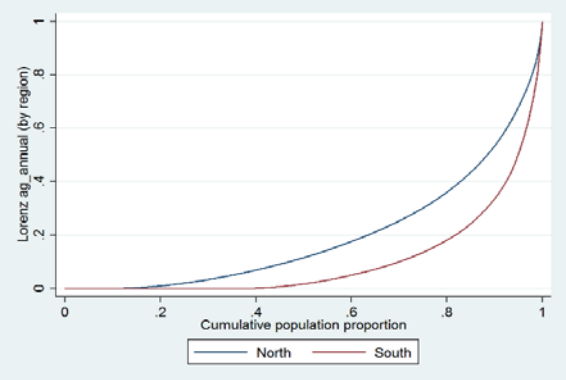
c. Total *agricultural* land distribution (Lorenz curve) 2016 by region



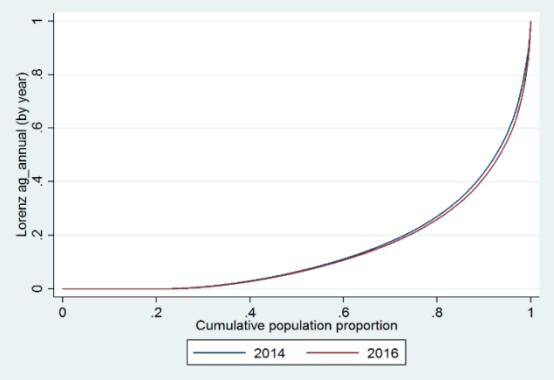
d. Total *agricultural* land distribution(Lorenz curve) by year



e. *Annual* land distribution 2016 by region



f. *Annual* land distribution by year



In column 8 of Table 2.3, land distribution is shown in more detail by providing land distribution Gini indices for the different regions, income groups, and gender of household heads. Across regions, there are significant differences. Within Long An and Khanh Hoa, the land distribution is most unequal with Gini indices of more than 70. In Lai Chau, the distribution is the most equal, with a Gini index of only 37.8. For the whole sample, the Gini index is 64, an increase by one point compared to 2014.

Table 2.3: Plots acquired by source (percent)

	State	Inheritance	Sales market (=bought)	Cleared and Occupied	Exchanged	Obtained	Other	GINI
Total 2016	58.0	16.5	9.3	13.8	1.8	0.3	0.2	64.0
Province								
Ha Tay	89.4	5.9	2.5	1.0	0.8	0.4	0.0	55.2
Lao Cai	33.3	38.0	6.2	20.2	2.2	0.0	0.0	51.0
Phu Tho	82.2	10.0	3.2	2.8	1.1	0.2	0.5	61.5
Lai Chau	19.8	17.2	1.2	60.2	0.0	1.6	0.0	38.4
Dien Bien	27.9	11.8	2.5	57.7	0.0	0.0	0.1	47.5
Nghe An	58.3	19.0	3.7	5.2	13.8	0.0	0.0	68.3
Quang Nam	81.7	12.2	2.1	3.4	0.1	0.5	0.0	60.0
Khanh Hoa	34.6	28.6	18.1	18.1	0.0	0.5	0.0	73.5
Dak Lak	12.8	16.8	41.6	26.2	0.4	0.2	2.0	52.7
Dak Nong	7.0	13.7	48.3	30.2	0.9	0.0	0.0	48.2
Lam Dong	6.6	24.9	32.4	35.7	0.0	0.5	0.0	46.8
Long An	8.0	61.3	29.3	0.7	0.3	0.3	0.0	73.5
Household head								
Female	65.0	16.7	9.1	8.1	1.0	0.0	0.1	69.9
Male	56.4	16.5	9.3	15.1	2.0	0.4	0.2	67.1
Food expenditure quintile								
Poorest	49.6	19.0	4.8	23.1	2.7	0.7	0.1	61.5
2nd poorest	53.8	17.1	9.2	18.3	1.3	0.2	0.1	66.0
Middle	56.9	18.8	9.0	12.4	2.4	0.2	0.3	69.9
2nd richest	64.7	13.7	11.0	8.5	1.5	0.2	0.4	70.7
Richest	64.4	14.2	12.1	7.5	1.2	0.3	0.2	71.0
Total 2014	55.5	19.1	9.8	14.7	0.4	0.4	0.1	63.0

N 2016 = 10,076 Plots (N 2014 = 10,373 Plots)

Table 2.3 also provides an overview of various sources of land acquisition. Overall, about 58 percent of the land was acquired from the state or communes, which makes it the most important source of acquirement. Especially in Ha Tay, Phu Tho, Nghe An, and Quang Nam, most of the land was acquired from the state or the commune, while in Dak Nong, Lam Dong, and Long An, the state only played a minor role as a source of land. An interesting pattern can be seen in column 3. In the Southern provinces, a large amount land is bought on the land market, while this is not the case for the Northern provinces.

Comparing the different socioeconomic groups, richer households are more likely to have received land from the state or through the land market. For poorer households, inheritance plays a larger role in terms of receiving land. They are also more likely to have acquired agricultural land by clearing the forest. The explanation is that the poorer households are more prevalent in the upland provinces, where the clearing of land is also much more common than in the lowlands.

Female-headed households received their land significantly more often from the state, with 65.0 percent compared to 56.4 percent among the male-headed households. The latter, on the other hand, are significantly more likely to have cleared and occupied land. In terms of land market participation, there are no differences between female- and male-headed households.

In table 2.4, we can see the sources of plots that have been acquired within the last three years.

Table 2.4: Sources of recently acquired plots (past three years)

Acquirement source of plots	Total		North		South	
<3 years	Total	Percent	Total	Percent	Total	Percent
Total	534	100	480	100	54	100
State/Commune	326	60.9	323	67.2	3	5.6
Inheritance	23	4.3	16	3.3	7	13.0
Sales market (bought)	53	9.9	14	2.9	39	72.2
Cleared and occupied	19	3.6	14	2.9	5	9.3
Exchanged	113	21.1	113	23.5	0	0.0

N=501 plots

As already shown by the table before, the state or commune is the most frequent source of receiving land. And again, we can see differences between the Northern and the Southern provinces. While in the North, the state is the most common source of acquirement, households in the South seem to be much more active on the land market. A possible explanation for this is that households in the North are more likely to perceive land as inalienable to the family, while households in the South typically view land as a commodity, which can be traded on the market. An interesting result is that only about 10 percent of the recently acquired plots were bought on the sales market, while most of the land was received from the state. In previous years, this pattern was reversed: The sales market was the most important way of receiving land, while only a small share of new land was acquired from the state. Another interesting fact is that almost 90 percent of the recently acquired plots are in the North.[9]

2.2 Land Titles

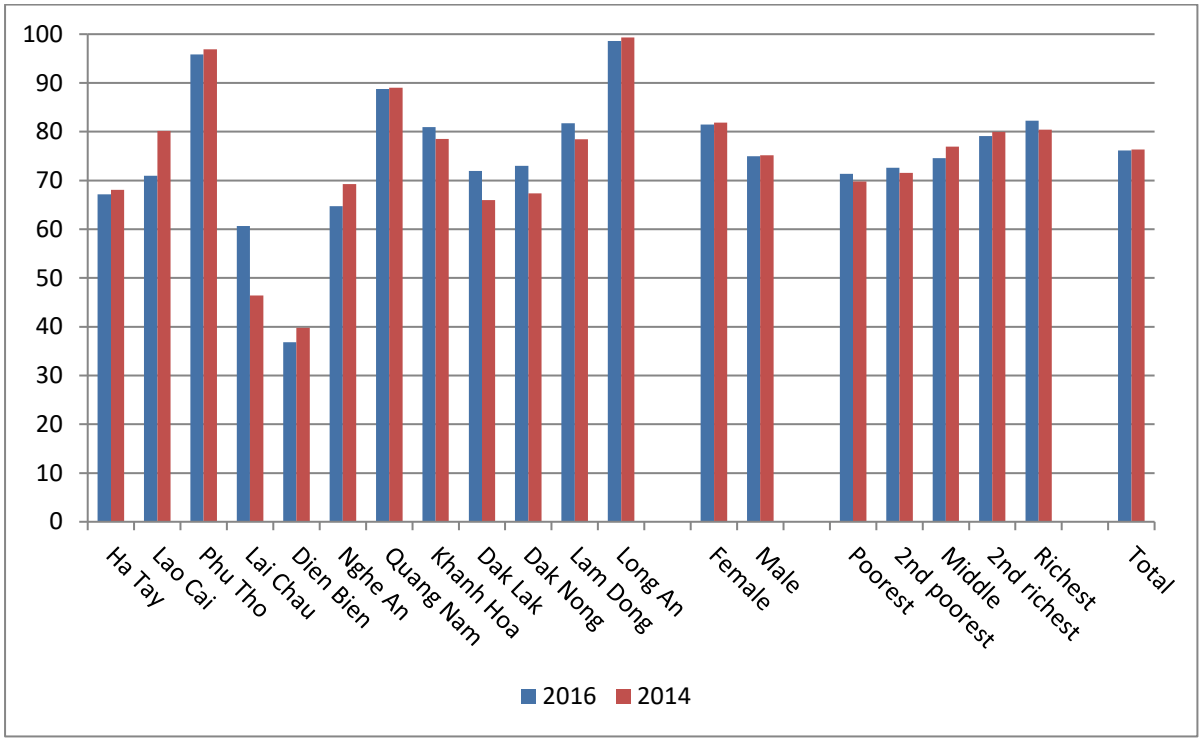
In 2013, a decade after its implementation, the 2003 Land Law was revised. The duration of land use rights was extended and tenure security and transfer rights were strengthened. The Land Use Rights Certificate (LURC), also commonly known as Red Book, is a formal documentation of the right to use land. This right grants the users legal protection by the state, and in addition to the right to use the land also grants permission to sell, exchange,

[9] This, and the surprisingly large share of plot acquired from the state, is to a large driven by a large number of plots (167) handed out in ex-Ha Tay province. Hence, it is possible that one or a few single instances of large-scale land allocation in this province is driving the results.

rent out, bequeath and mortgage it. Land use rights are temporary, but long term, generally 50 years. LURCs are granted by land registration offices, working under the Ministry of Natural Resources and Environment (MONRE).

In Figure 2.2, we can see that 76.4 percent of owned plots in our sample had a LURC in 2016. This is almost exactly the same level as in 2014. In the predominantly lowland provinces of Long An and Phu Tho, nearly all plots have a LURC (98.1 and 96.2 percent respectively). In the mountainous provinces of Dien Bien and Lai Chau, the share of titled land is much lower, especially in Dien Bien with only 35.6 percent. One explanation is that in the mountainous and upland regions, topography makes the measuring, mapping and registration of land more difficult. The traditional prevalence of communal land tenure institutions in the highlands is another factor that complicates the assignment of property rights to households. However, in Lai Chau, the share of plots with a LURC rose by more than 12 percentage points between 2014 and 2016 (and by more than 25 compared to 2010).

Figure 2.2: Proportion of plots owned with a LURC (percent)



N 2016 = 8,260 Plots (N 2014 = 8,501 Plots)

Comparing male- and female-headed households, Figure 2.2 shows that the latter are more likely to have a LURC for their land. Among the socioeconomic groups, the richer households are more likely to have titled land than poorer ones. Between the poorest and richest quintile, there is a difference of more than 10 percent. This might suggest that there are some sorts of constraints for poorer households, possibly the administrative procedure or the more disadvantageous location of their plots. Even though this gap was

almost the same in 2014, it reduced substantially compared to 2012 and 2010, where the difference between richest and poorest quintiles was about 20 percent.

Table 2.5 gives an overview over the reasons for households not having a LURC (also knowns “Red Book”) for their plots, split by regions.

Table 2.5: Reasons for a plot not having a LURC (percent)

	Total	North	South
Total	100	100	100
Land in conflict	0.5	0.6	0.2
Land acquired and no RB yet	27.4	26.9	29.7
Agreement to be using land but do not hold RB	52.4	54.5	43.8
Redbook ready but not collected from the authorities	11.3	9.7	17.6
Don't know what a RB is	0.0	0.1	0.0
Other	7.5	7.3	8.7

N=2,950 plots

The most frequently stated reason is that households have made an agreement to use the land without holding a Red Book. In the Northern region, this reason was stated by more than half of the households (52.4 percent), while in the South it was about 10 percentage points less. A possible explanation might be that people value the benefits of having a LURC less so that the process of obtaining a LURC seems not be worth its costs. 27.6 percent stated that they have land acquired but not a Red Book yet, and about 11 percent stated that their Red Book is ready but was not collected from the authorities. A reason for the latter could be that plot owners are afraid that authorities could use the opportunity of collecting the Red Book to enforce the payment of due debts, fees or other responsibilities, or that that the officials may demand a bribe.

In Table 2.6, we can see the name registration structure in LURC. After the introduction of the 1993 Land Law, the name of only one person could be written down in the Red Book, which was usually the head of household. This was changed in 2003. According to the new Land Law, it was possible to register the name of the spouse if the land owner was married. This regulation was aimed to benefit especially women, as in most cases only the name of the male head of household was registered in the LURC. If wives are included in the LURC as well, this provides them de jure more participation in decision-making and gives them more security in the event of the death of their husbands (cf. Newman, Tarp and van den Broeck 2015).

In 2016, most plots continued to be registered with only the name of the household head (62.2 percent), while for 20.7 percent of plots, both names were registered. Compared to 2014, this is a substantial change. In 2014, 75.8 percent were registered with only the head of the household while only 8.6 percent of the plots had both names in the Red Book.

This might be explained by the 2013 Land Law (implemented in 2014) and the 2014 Law on Marriage and Family, which both strengthened the rights of spouses. For married couples, it is now required to register both names for a jointly owned plot, unless both decide jointly to register only name.

Table 2.6: Name registration structure in LURC (percent)

	Only head	Only spouse	Both head and spouse	Other
Total 2016	62.2	7.5	20.7	9.7
Province				
Ha Tay	64.4	6.4	18.6	10.6
Lao Cai	68.1	11.9	7.5	12.4
Phu Tho	56.2	8.4	27.2	8.1
Lai Chau	32.8	4.7	57.2	5.2
Dien Bien	62.4	5.5	25.5	6.6
Nghe An	62.9	5.9	9.1	22.1
Quang Nam	67.9	10.1	16.8	5.2
Khanh Hoa	75.5	4.8	4.8	14.8
Dak Lak	77.4	6.4	8.4	7.8
Dak Nong	69.4	3.2	19.1	8.3
Lam Dong	59.0	3.5	30.5	7.0
Long An	59.8	9.2	20.4	10.6
Gender of HH head				
Female	54.6	21.9	6.4	17.2
Male	64.1	3.8	24.4	7.7
Food expenditure quintile				
Poorest	60.1	8.9	22.0	9.1
2nd poorest	60.2	8.4	20.4	11.1
Middle	60.7	6.9	21.0	11.4
2nd richest	68.2	4.9	17.2	9.7
Richest	60.8	8.9	23.0	7.3
Total 2014	75.8	5.2	8.6	10.4

N 2012 = 7,461 plots (N 2012 panel = 8,911 plots; N 2010 panel = 7,790 plots)

Looking at the provinces, in Khanh Hoa and Dak Lak more than 75 percent of the plots were only registered by the head of household, while Lai Chau has the smallest share with just 32.8 percent. In Lai Chau, 57.2 percent of the plots were registered with the names of the head and the spouse, making it outstanding of the other provinces. The likely explanation is that most LURC in Lai Chau were issued recently, after the possibility of registering several names became available Focusing on gender differences, we can see that male-headed households are significantly more often registered with only the head of household. Moreover, 21.9 percent of the female-headed households are registered by the spouse only. Thus, there is still a dominance of males in terms of land registration. Across socioeconomic groups, there are no specific patterns in terms of the name registration

structure. Except for the second richest quintile, there are no major differences across the income groups.

2.3 Restrictions on Land Use

Motivated by food security concerns, the Vietnamese state supervises and regulates agricultural activities and can impose restrictions on land use, i.e. on the choice of crops and on non-agricultural use. Table 2.7 shows the shares of non-residential land with restrictions on it as well as the different forms of restrictions.

Table 2.7: Restrictions on non-residential plots (percent)

	Formal restrictions on choice of crops	Types of restrictions on choice of crops:			Construct fixed structure (not allowed)	Convert into non-agricultural use (not allowed)
		Rice all seasons	Rice some seasons	Others		
Total 2016	30.7	19.0	7.8	3.1	19.0	19.2
Province						
Ha Tay	41.3	23.1	14.5	3.1	7.4	7.6
Lao Cai	4.7	1.9	2.4	0.2	4.6	4.1
PhuTho	49.0	29.0	13.5	5.4	14.3	15.3
Lai Chau	4.7	1.6	3.0	0.0	21.1	20.8
Dien Bien	14.8	8.1	4.3	1.3	19.9	13.3
Nghe An	52.3	30.0	13.1	8.9	21.2	20.9
Quang Nam	29.6	26.2	2.1	1.1	15.7	15.2
Khanh Hoa	20.1	19.7	0.0	0.0	39.0	66.4
Dak Lak	7.1	2.4	3.9	0.9	38.6	35.7
Dak Nong	9.3	6.5	2.5	0.3	27.8	27.4
Lam Dong	0.0	0.0	0.0	0.0	63.0	68.2
Long An	34.7	24.8	1.5	6.2	28.5	27.2
Gender of HH head						
Female	32.7	19.3	9.6	3.2	20.8	23.2
Male	30.3	19.0	7.5	3.1	18.6	18.4
Food expenditure quintile						
Poorest	24.7	15.6	4.5	3.9	19.4	20.1
2nd poorest	25.5	16.3	5.6	3.0	21.4	21.1
Middle	27.3	16.0	6.9	3.8	20.1	20.8
2nd richest	36.4	21.1	12.1	2.7	14.9	15.3
Richest	38.2	25.7	9.3	2.4	19.5	19.5
Total 2014	44.3	23.2	16.5	2.6	29.6	19.3

N 2016 = 7,862 Plots (N 2014 = 8,087 Plots)

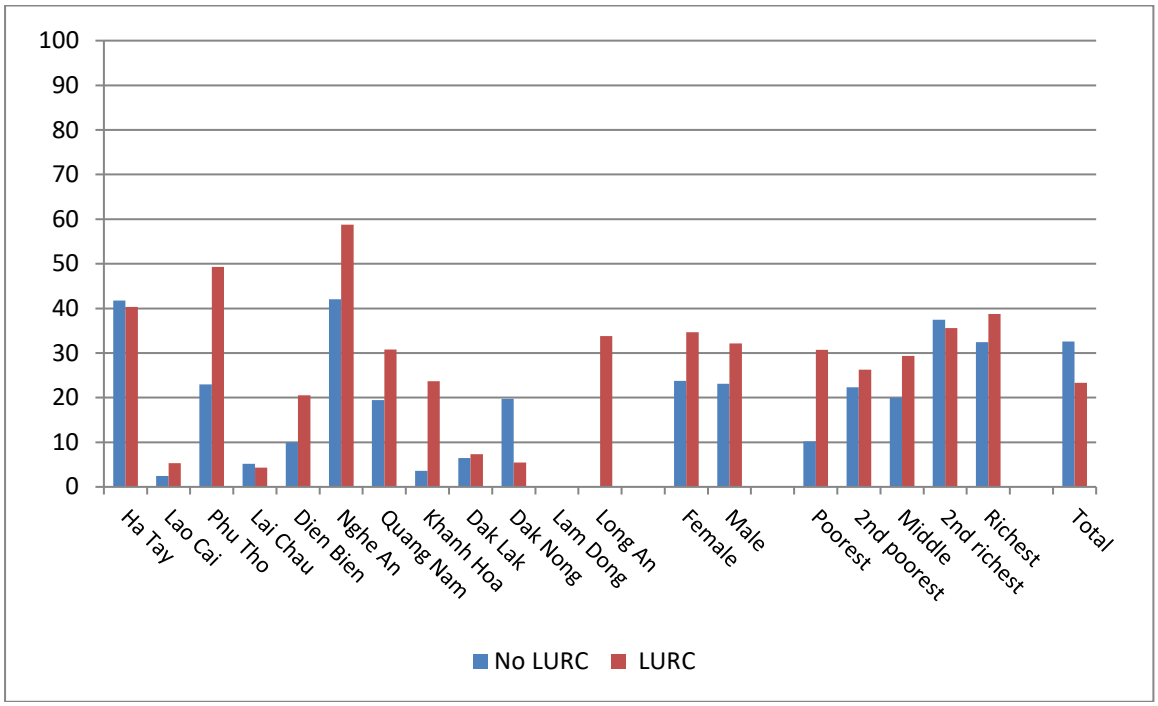
Overall, it appears that these restrictions had been relaxed in the previous years. In 2014, about 44 percent of the plots had restrictions on the choice of crops and on about 30 percent, it was not allowed to construct fixed structures. In 2016, these numbers decreased to 30.7 and 19.0 percent, respectively. Possible explanations may be that

concerns about food insecurity have diminished or that restrictions were reduced to foster efficiency and encourage investments (Markussen, Tarp and van den Broeck 2011).

Across provinces, farmers in Phu Tho and Nghe An are more likely to experience crop choice restrictions than farmers in any other VARHS provinces, while farmers in Lai Chau and Lao Cai are the least restricted. Comparing the regions, the choice of crop is significantly more often restricted in the Northern provinces than in the Southern ones. If we turn to the restrictions on constructing fixed structures and converting land for non-agricultural use (columns 5 and 6), the pattern is reversed. Both types of restriction are significantly more frequent in the Southern provinces than in the Northern ones.

Columns 2 to 4 present results on the diverse types of crop restrictions. In all provinces in the sample, the most frequently imposed restriction is to grow rice all seasons, with 19.1 percent of the plots in total. While there are no larger differences among the gender of the head of household, there are interesting differences across socioeconomic groups. The two richest quintiles are significantly more likely to have formal restrictions on their choice of crops than then other quintiles. Possibly, these households are holding the plots that are perceived by the authorities to be more important to guarantee food security.

Figure 2.3: Share of plots with restricted choice of crop, by red book status (percent)



N =6,331 plots.

In Figure 2.3, we can see the share of restricted plots divided by Red Book status. Plots with a LURC are less likely to be restricted in the choice of crops than plots without LURC. Thus, stronger tenure security also implies stronger rights on the choice of crop. Previous

VARHS reports showed the opposite patterns, and further research should investigate why this reversal has taken place.

2.4 Investment in Land

This section explores land-related investment. Table 2.8 shows the share of plots that have irrigation, or bushes or trees (i.e. "perennial crops"). It also shows these shares for plots with and without a Red Book separately, to investigate whether there is a correlation between Red Book status and investment. This relationship is of interest, as one aim of land titling is to provide tenure security and thereby encourage investment in the land (see Markussen (2015) for a more detailed analysis of the period from 2006 to 2014).

Table 2.8: Current status of land investment - irrigation facilities and perennial crops

	Percent of plots w. irrigation			Percent of plots w. tree/bushes		
	All plots owned and used	No LURC	LURC	All plots owned and used	No LURC	LURC
Total 2016	81.8	77.1	83.4	18.5	19.1	18.4
Province						
Ha Tay	94.2	95.5	93.4	6.0	6.7	5.5
Lao Cai	64.6	58.8	67.0	12.3	15.7	10.9
Phu Tho	90.5	97.1	90.2	8.1	16.2	7.7
Lai Chau	80.4	71.9	85.9	0.8	0.5	1.0
Dien Bien	51.0	47.6	56.9	6.2	65	5.8
Nghe An	80.0	82.6	78.3	28.9	32.3	26.5
Quang Nam	76.0	75.2	76.2	13.2	17.7	12.6
Khanh Hoa	57.6	46.2	60.2	35.2	50.0	31.6
Dak Lak	89.3	79.1	93.6	56.2	55.4	56.6
Dak Nong	88.1	88.4	88.0	71.0	67.4	72.3
Lam Dong	72.2	90.0	67.5	76.3	82.5	74.7
Long An	83.5	100.0	83.5	23.3	33.3	24.0
Household head						
Female	81.7	80.5	82.1	17.8	24.7	15.7
Male	81.8	76.5	83.7	18.7	18.2	18.9
Food expenditure quintile						
Poorest	73.8	70.0	75.6	14.9	14.9	15.1
2nd poorest	79.6	71.6	83.4	19.8	21.9	19.0
Middle	84.8	81.6	86.0	19.5	18.9	19.8
2nd richest	85.3	84.7	85.6	20.1	18.3	20.6
Richest	84.0	80.2	84.9	18.0	23.2	16.8
Total 2014	75.5	66.8	78.5	17.8	14.9	18.8

N 2016 = 6,614 Plots (N 2014 = 6,720)

In total, 81.8 percent of all owned and used plots were irrigated in 2016, which is an increase of about 6 percentage points from 2014. Irrigation is significantly more prevalent on plots with a LURC, even though this difference decreased. While in 2014 the difference was 11.7 percentage points, in 2016 is was only 6.3. Even though this result may confirm

the idea that land titling incentivizes investment, plots without LURC have kept up in that category. Surprisingly, in some provinces like Long An, Lam Dong, Phu Tho and Ha Tay, the share of irrigation is even higher on non-titled plots. In terms of trees and bushes, the Red Book status is of less importance. An overall of 18.5 percent of the plots had trees or bushes in 2016, with no significant difference between titled and non-titled land. Unsurprisingly, the investment status differs across socioeconomic groups. The poorest households are less likely to have irrigation as well as bushes or trees on their plots. This difference is stronger if we only look at plots without LURC. For these plots, there is also a difference between the genders of the head of household. Female-headed households are more likely to have irrigation or bushes/trees on non-titled land.

Table 2.9 provides information on investments made in the two years prior to the time the survey was conducted.

Table 2.9: Household investment (last two years)

	Irrigation/soil/water conservation		Structures for aquaculture		Other (semi-) permanent structures		Trees and bushes	
	Percent	Value ('000) VND	Percent	Value ('000) VND	Percent	Value ('000 VND)	Percent	Value ('000) VND
Total 2016	9.6	5,945	2.6	9,787	2.2	351,093	7.9	16,642
Province								
Ha Tay	4.0	8,765	1.3	12,529	1.9	220,380	1.9	5,108
Lao Cai	8.1	1,267	9.1	1,250	0.0	0	6.1	1,960
PhuTho	8.9	6,908	5.0	9,571	1.2	490,610	5.9	5,007
Lai Chau	37.8	779	0.8	1,200	1.7	0	0.0	0
Dien Bien	29.7	2,221	11.0	1,765	10.2	94,115	2.5	1,667
Nghe An	8.8	1,717	0.0	0	2.1	796,250	4.1	4,129
Quang Nam	7.1	1,500	0.7	3,000	1.7	236,420	2.7	6,188
Khanh Hoa	0.0	0	2.8	55,000	5.6	1,057,500	8.3	1,650
Dak Lak	13.4	20,825	0.7	10,000	0.7	1,530,000	31.5	23,210
Dak Nong	4.9	21,167	2.5	10,333	0.8	1,200,000	32.8	32,215
Lam Dong	13.9	14.700	1.4	22,000	6.9	244,000	22.2	18,134
Long An	5.4	7.345	2.1	26,770	1.3	106,667	9.2	5,757
Gender of HH head								
Female	5.2	2,367	1.0	5,300	1.6	518,700	6.6	7,929
Male	10.8	6,374	3.0	10,119	2.3	320,619	8.3	18,488
Food Expenditure Quintile								
Poorest	13.8	1,279	2.5	642	1.9	219,600	6.4	17,662
2nd poorest	11.1	9,283	2.2	10,350	2.4	86,991	7.9	14,977
Middle	7.2	3,162	1.9	4,273	2.7	595,769	7.7	8,999
2nd richest	9.1	8,717	2.3	6,745	2.6	524,453	8.3	26,963
Richest	6.9	9,665	4.1	20,474	1.3	177,583	9.5	14,524
Total 2014	7.9	3,757	2.5	12,596	1.9	489,268	6.6	15,360

N 2016 = 2,367 Households (N 2014 = 2,406). Value of investment averages are conditional on any investment (i.e. only households who undertook some investment are included).

It shows the share of households that have made any investments in this period in four distinct categories, as well as the average values of these investments in 2016 prices. As we can see in columns 1 and 2, irrigation, soil, and water conservation was most frequently subject to investments with 9.5 percent and an average value of 5,945,000 VND. In the Northern provinces of Lai Chau and Dien Bien the share has been the highest with 37.8 and 29.7 percent and with comparably low investment values. In the Southern provinces of Dak Lak and Dak Nong, the average investment was the highest with more than 20 million VND each. Also in the other investment categories (structures for aquaculture, other permanent and semi-permanent structures, and trees and bushes), the average spending was significantly higher in the Southern provinces. The highest average investments have been made in permanent and semi-permanent structures with about 351 million VND (this value is strongly affected by a few very high outliers). However, these investments have also been made by the smallest share of households (2.2 percent), followed by structures for aquaculture (2.6 percent) and trees and bushes (7.9 percent).

Looking at socioeconomic groups, there is no uniform trend across the diverse types of investment. Poorer households are more likely to have made investments in irrigation, soil and water conservation, and less likely to have invested in trees and bushes. For aqua-cultural and other permanent or semi-permanent structures, there is no clear trend across income groups. Male-headed households are in all four categories more likely to have invested. They also invested more on average in all categories except for other permanent and semi-permanent structures, where the average value of investments made by female-headed households exceed the male-headed ones by about 200 million VND.

2.5 Land Transactions

This section deals with land markets and land transactions. As mentioned before, Vietnamese legislation makes it possible to sell, buy, rent in and rent out land. According to MONRE, land transactions have increased significantly after the land law of 2003 was implemented. The previous sections already provided some information on land transactions in terms of land acquisition. This section further expands the analysis of land transactions, focusing on land values, and on land rental- and sales markets.

Table 2.10 provides the approximate sales value of agricultural land, and the subcategories annual and perennial land, in VND per square meter. However, it is important to note that the estimates are based on subjective assessments of survey respondents. In places with this land markets, these assessments may be inaccurate. Also, many respondents are unable to provide any assessment of the sales value of their plots (i.e. there are many “missing values” on this variable). The estimated sales value for all three types of land is especially high in Ha Tay, Phu Tho, Khanh Hoa and Long An. The lowest values are found in Lai Chau, Dien Bien and Dak Nong. Overall, there is stark difference between types of

land. Agricultural land and annual land with 179,000 and 193,000 VND are on average much higher valued than perennial land (77,000).

Table 2.10: Approximate sales values of agricultural, annual, and perennial land ('000 VND/sqm.)

	Appro. Sales value of agricultural land	Appro. Sales value of annual land	Appro. Sales value of perennial land
Total 2016	179	193	77
Province			
Ha Tay	342	344	196
Lao Cai	94	106	22
PhuTho	198	200	131
Lai Chau	15	15	20
Dien Bien	29	29	12
Nghe An	56	56	65
Quang Nam	77	77	77
Khanh Hoa	309	367	79
Dak Lak	46	35	57
Dak Nong	34	32	35
Lam Dong	81	85	80
Long An	127	120	174
Gender of HH head			
Female	226	241	77
Male	168	181	77
Food expenditure quintile			
Poorest	129	134	82
2nd poorest	155	168	72
Middle	207	224	80
2nd richest	183	202	79
Richest	202	216	71
Total 2014	156	164	90

N = 3,598 Plots

If we look at the different socioeconomic groups, we see that poorer households tend to report lower sales values for their land. This might suggest that the land held by richer households is of better quality than that of the poorer. It could also mean that richer households have better access to information on markets and prices. We also see differences between the genders of the heads of households. Female-headed households value their annual land significantly higher than male-headed households do. For perennial land, there is no gender difference.

Overall, the sales value for agricultural has increased compared to 2014, driven by an increase in the value of annual land. Possibly, this results from the increase in investments documented in the previous tables.

Table 2.11 investigates whether and how household part with land plots. It shows the share of households who parted with land as well as the different modes of parting. Overall, roughly 10 percent of all households parted with land. This is a significant decrease compared to 2014 (17.7 percent).

Table 2.11: Modes of parting with plots

	Share of HHs who departed with land	Modes of parting with land						
		Exchanged	Sold	Gave	Expelled	Abandoned	Other	Total
Total 2016	10.0	19.5	17.2	32.1	19.0	5.0	7.3	1,509
Province								
Ha Tay	9.2	33.0	0.0	29.2	19.9	2.9	14.9	342
Lao Cai	6.8	26.2	14.3	35.7	21.4	0.0	2.4	42
Phu Tho	10.1	9.4	9.0	47.1	26.6	5.4	2.5	278
Lai Chau	3.1	0.0	0.0	36.7	43.3	0.0	20.0	30
Dien Bien	8.1	0.0	60.5	12.3	0.0	27.2	0.0	81
Nghe An	24.3	42.7	4.3	19.8	21.4	6.5	5.3	323
Quang Nam	4.6	0.0	3.6	49.4	34.9	3.6	8.4	83
Khanh Hoa	8.4	10.0	6.7	53.3	16.7	0.0	13.3	30
Dak Lak	17.6	0.0	43.7	45.2	4.0	3.2	4.0	126
Dak Nong	14.3	0.0	60.2	22.9	16.9	0.0	0.0	83
Lam Dong	10.7	0.0	39.4	30.3	0.0	0.0	30.3	33
Long An	6.3	5.2	74.1	17.2	0.0	0.0	3.4	58
Gender of HH head								
Female	7.9	5.0	17.6	46.9	13.8	1.7	15.1	239
Male	10.6	22.2	17.2	29.3	19.9	5.6	5.8	1,270
Food expenditure quintile								
Poorest	9.5	17.2	7.3	31.7	18.3	13.4	12.2	262
2nd poorest	10.4	16.3	18.3	35.3	19.6	3.5	7.1	312
Middle	11.3	20.9	20.6	32.9	10.0	4.4	11.2	340
2nd richest	9.8	17.8	20.0	30.2	22.9	5.1	4.0	275
Richest	9.1	24.4	18.4	30.0	25.0	0.0	2.2	320
Total 2014	17.7	48.2	9.2	20.4	14.8	3.4	4.0	2,412

N 2016 = 2,650 Households; N 2016 plots = 1,515 (N 2014 = 2,650 Households; N 2014 plots = 2,412)

Of the plots parted with, about one third were given away. Especially among female-headed households, this mode of parting is prevalent, with 46.9 percent compared to 29.3 percent among male-headed households. About 20 percent of the parted land was exchanged for other land. In Nghe An, a total of 44.3 percent of the parted land was exchanged, while in six of the sampled provinces no land at all was. There are again strong gender differences. Plots are predominantly exchanged by male-headed households (22.4 percent compared to only 5 percent).

17.2 percent of parted plots have been sold. Especially in Dien Bien, Dak Nong and Long An, this number was high with more than 60 percent each. Overall, households in the Southern provinces are significantly more likely to sell their land. In 19.0 percent of the cases, the users of land were expelled from it. Interestingly, this happened significantly

more often among richer households, suggesting a certain degree of land redistribution. An overall of 5.0 percent of the households who parted with land, abandoned it, whereas this occurred predominantly among poor households.

Table 2.12 provides information on recipients of land and shows some interesting relationships between modes of parting and recipients. Most of the plots in 2016 went either to the state (37.8 percent) or to children (25.2 percent). Unsurprisingly, in almost all cases where land users have been expelled, the recipient of the land was the state. This is consistent with the results of Khai et al. 2013. Also, the exchanged land was predominantly received by the state. 74.8 percent of the plots given away, were received by a child or a sibling. Thus, they can be seen as inheriting.

Table 2.12: Recipients of land (percent)

	Parent	Child	Sibling	Other relative	Neighbor	Other person	State	Private organiz ation	Other
Total 2016	2.5	25.2	5.8	6.2	6.7	6.8	37.8	2.3	6.6
Exchanged	0.0	1.0	3.7	2.4	4.8	1.0	83.3	0.0	3.7
Sold	0.0	0.8	2.7	7.7	31.5	36.5	5.4	12.7	2.7
Gave away	3.1	74.8	12.8	4.1	1.0	0.0	0.4	0.0	3.7
Expelled	3.8	2.1	0.0	0.0	0.0	0.0	93.7	0.3	0.0
Abandoned	10.7	4.0	9.3	13.3	0.0	0.0	14.7	0.0	48.0
Other	3.6	4.5	0.9	33.6	0.0	4.5	28.2	0.0	24.5

2.6 Summary

This chapter provided an overview of several issues related to land, including land distribution and fragmentation, land titling, restrictions on land use, investment, and land transactions. Several differences between the Northern and the Southern provinces were documented. In the six Southern provinces in the sample, land is more unequally distributed. Households are more likely to be landless and have larger holdings. Thus, the land distribution is most unequal in the South. Land markets are more active in the South, where more land was sold and acquired on the market. In the North, the role of the land market seems to have decreased since 2014, while the role of the state as a source and a recipient of land somewhat surprisingly appears to have increased. Overall, the share of landless households slightly increased compared to 2014.

In terms of socioeconomic groups, richer households are more active in the land market. They buy and sell more land on the market, but are also more likely to acquire land from the state. Poorer households on the other hand more often acquire land through clearance and occupation or inheritance. Poorer households also own less valuable land. However, poverty does not appear to correlate with landlessness. This suggests that agricultural

income is more important for poorer households and that land is sold to take up non-farming activities.

The share of plots with a LURC has not increased since 2014. For more than half of the plots without a LURC, the households have made an agreement to use the land without holding a Red Book. At the same time, investment in plots not having a Red Book increased. This might imply that tenure security is perceived to have increased, also without official titling.

In most of the observed categories, there are persistent differences between the male- and female-headed households. For example, female-headed households are more likely to be landless and less active on the land market. On the other hand, they are more likely to have a Red Book, perform well in terms of investment, and own the more valuable land. Also, the share of Red Books with the names of both head and spouse registered increased significantly since 2014, potentially improving women's ability to affect decision-making in the household.

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CHAPTER 3 AGRICULTURAL PRODUCTION AND MARKET ACCESS

In this chapter, we investigate the structure of households' involvement in agricultural activities with a special focus on the important issue of commercialization. Commercialization is the process of increased market orientation, and is a complex and multidimensional phenomenon. It entails a switch from self-sufficiency of farming enterprises to a reliance on markets for purchase of inputs and for the sale of production. This switch from producing to buying what the household needs allows for more specialized production, which increases yields and livestock breeding. We try to shed light on the issue from both the input and the output side. We also discussed briefly the role of common pool resource (CPR) activities in rural households.

3.1 Households' participation in agricultural activities

In Table 3.1 we can observe the proportion of households involved in agriculture and livestock/aquaculture production; in general a lower proportion of households have livestock production compare to crop production. This may be due to higher difficulties (more capital needed, higher risks, etc.) in breeding animals relative to growing crops or plants. Moreover, there is a decline in the trend of the share of households that are growing crops and breeding animals; between 2014 and 2016 the proportion of households involved in such activities was reduced by 5.8 and 5.7 percent, respectively. In the case of crop production all provinces but one, Nghe An with a 0.9 percent increase, report a decrease in the proportion of households with this activity. As for livestock or aquaculture production we see something similar, only two provinces report an increase in the proportion of households conducting such activities; Dien Bien and Lam Dong with 1.6 and 13.2 increases, respectively.

One possible explanation for the general decline is that the panel subsample that is re-interviewed every second year naturally gets older. While it is the case that households with older household heads are less frequently engaged in agricultural activities (results not reported), the 2016 sample includes young households to account for such effect and the results still hold. Therefore, it is reasonable to believe that these results indicate a gradual increase in the share of households relying on income from non-farm activities.

Female-headed households are less less likely to be engaged in agricultural activities compare to their male-headed counterparts. In our sample we see that for 2016, the percentage of male-headed households involved in crop production is higher by 15.8 percentage points compare to female-headed households. For livestock and aquaculture the pattern is similar, the proportion of male-headed households is higher by 18.3 percentage points. Additionally, we see that the overall drop between 2014 and 2016 in

these activities is stronger in female-headed households: 8.6 compare to 4.8 in the case of crop production and 9.6 compare to 4.4 in the case of livestock or aquaculture production. Part of the explanation for this difference could be that on average, female-headed households have older household heads and the households consist of fewer household members. However, other gender-related constraints such as discrimination, insecure tenure and difficulties in obtaining inputs, may potentially also be contributing to this gap.

Table 3.1: Proportion of households involved in agricultural or livestock / aquacultural production

	Crop production			Livestock/Aquaculture		
	2014	2016	Difference	2014	2016	Difference
Total	**81.8**	**76.1**	**-5.8**	**61.5**	**55.8**	**-5.7**
Ha Tay	76.1	68.1	-8.0	45.4	40.2	-5.2
Lao Cai	92.3	88.5	-3.8	91.3	88.5	-2.9
Phu Tho	83.7	76.8	-6.8	76.8	71.8	-5.0
Lai Chau	90.8	90.1	-0.8	92.4	90.8	-1.5
Dien Bien	95.1	93.5	-1.6	93.5	95.1	1.6
Nghe An	78.5	79.4	0.9	81.2	76.2	-4.9
Quang Nam	77.5	72.6	-4.9	55.9	45.6	-10.3
Khanh Hoa	58.9	54.2	-4.7	36.4	29.9	-6.5
Dak Lak	91.2	88.1	-3.1	62.9	43.4	-19.5
Dak Nong	91.0	90.2	-0.8	62.4	55.6	-6.8
Lam Dong	94.7	92.1	-2.6	32.9	46.1	13.2
Long An	80.9	66.0	-14.8	44.1	38.3	-5.9
Gender of HH Head						
Female	72.6	64.0	-8.6	51.4	41.8	-9.6
Male	84.5	79.8	-4.8	64.5	60.1	-4.4
Income Quintile						
Lowest	80.6	75.0	-5.6	63.6	60.2	-3.4
Second lowest	88.2	83.1	-5.0	69.0	63.1	-5.9
Middle	86.6	79.3	-7.4	67.7	54.0	-13.6
Second highest	78.8	74.3	-4.5	57.0	53.1	-3.9
Highest	75.7	68.6	-7.1	52.0	48.5	-3.5
Number of observations	2,666	2,666		2,666	2,666	

Notes: The table shows the percentage of households reporting to have been involved in the activity during the last 12 months, it is common that households participate in both crop production and animal breeding.

When looking at household participation in agricultural activities sorted by income levels some interesting patterns emerge. For instance, the participation rate for the highest income quintile is the lowest in both years for crop production and livestock/aquaculture. This might indicate the richest households are moving away from agriculture to higher return activities (e.g. migration). It is also worth noting that this relationship is not entirely lineal. For crop production in 2016, the lowest income quintile shows participation in crop production of only 75.0 households compare to 83.1 and 79.3 from the two subsequent quintiles. For livestock and aquaculture the lowest quintile has a participation rate of 60.2

while the second lowest has a higher rate of 63.1. This information points the fact that there are other relevant aspects that households face when deciding to engage in agriculture beside the potential earnings, such as risk exposure, availability of other income-generating options and preferences.

3.2 Selection of crops and livestock production

Here we take a closer look into the selection of crops households grow and the animals they have for livestock production. Rice is by far the most popular staple, 58.3 percent of all the plots in the sample are devoted to it while poultry (chicken, duck or quail) is the most common livestock with 77.1 percent of households reporting to have this animal. In Table 3.2 we show the breakdown of the most common crops in the sample, together they represent around 80 percent of all cultivated plots. We also show the most common animals for livestock production, given that households often breed more than one kind of animal the sum of the livestock percentages is greater than 100.

Table 3.2: Households' selection of crops and livestock

	Crop production					Livestock			
	Rice	Maize	Veg.	Fruit	Coffee	Cow	Buffalo	Pig	Poultry
Total	**58.3**	**8.2**	**3.0**	**4.0**	**5.9**	**26.1**	**24.6**	**49.6**	**77.1**
Ha Tay	77.8	3.3	3.0	3.2	0.0	19.8	1.3	47.8	73.7
Lao Cai	44.1	24.4	2.5	1.0	0.0	4.3	54.3	72.8	95.7
Phu Tho	70.0	8.2	3.2	2.0	0.0	24.9	22.3	56.0	76.9
Lai Chau	75.3	17.2	3.0	0.2	0.0	4.2	78.2	96.6	63.9
Dien Bien	49.4	20.7	0.6	2.0	1.1	23.9	62.4	85.5	98.3
Nghe An	56.7	10.4	9.4	4.6	0.3	37.1	29.4	26.5	88.8
Quang Nam	59.3	1.8	1.2	4.2	0.0	46.7	20.7	45.3	62.0
Khanh Hoa	39.5	6.1	6.8	19.7	1.4	21.9	0.0	25.0	78.1
Dak Lak	29.0	7.7	0.7	0.9	39.5	33.3	1.4	33.3	72.5
Dak Nong	18.4	4.6	0.0	3.1	49.7	20.3	2.7	23.0	83.8
Lam Dong	9.4	2.5	5.0	4.0	53.0	31.4	5.7	5.7	77.1
Long An	54.5	0.0	2.7	16.8	0.2	38.7	0.0	23.4	62.9
Gender of HH Head									
Female	59.7	5.9	3.8	5.8	4.6	24.1	11.9	38.3	77.0
Male	57.8	8.7	2.8	3.7	6.2	26.3	27.3	51.9	76.8
Income Quintile									
Lowest	59.3	10.3	3.7	3.7	2.7	29.3	34.0	51.7	79.4
Second lowest	62.0	9.9	2.4	2.7	4.5	25.9	35.6	50.9	75.0
Middle	61.3	8.5	2.8	3.2	4.9	28.2	24.7	50.2	76.7
Second highest	57.2	6.9	3.4	4.3	7.3	24.6	15.0	45.4	76.8
Highest	48.7	5.2	2.8	7.2	10.8	20.8	9.7	48.6	76.4
N	7758	7758	7758	7758	7758	1487	1487	1487	1487

Notes: The information for crops is reported at plot-level and livestock is at household level for 2016. The crops reported represent around 80 percent of all the crops at the national level. The sum of household observations with a particular animal is greater than the total number of households with livestock because households can report to have more than one type of animal. This makes the sum of the livestock greater than 100 percent.

The crop production structure displays large geographical variation. A large share of the households residing in the Northern provinces grows rice, often complemented with production of maize and cassava. In the south, households are less likely to grow rice, focusing relatively more on perennial crops such as fruits. The Central Highlands provinces have a strong focus on coffee production, complemented by fruit, rice and maize.

In the case of rice, vegetables and fruits we see that female-headed households tend to grow more plots of these crops, it is possible that some features in the production of these crops result more appealing to women who are heads of household. Moreover, we can see some differences in the type of livestock women and men might prefer. In Table 3.2 we can observe that a considerably lower percentage of female headed households have raised pigs in the past 12 months, also the proportion of male-headed households with buffalos is more than twice as the female-headed households; buffalos are normally used as draft animals which may explain some of the deterrence for women to obtain this type of animal.

When looking at the income quintiles we see that rice and maize are both grown less by households in the highest income quintile while the adoption of coffee as a crop seems to increase as households reach higher income quintiles. For the latter crop, this may be related to some characteristics of coffee production which make it hard for poor households to adopt it (e.g. higher costs of inputs, higher risk, etc.). As for livestock production we can observe that buffalos are less common as households get richer.

Although many households of the northern area are devoted to crop production, there are significant differences at the province level in terms of average yield production. As it can be seen in Table 3.3, average plot yields of the two main crops in the country –rice and maize– are significantly higher in provinces like Dak Lak or Long An, despite having considerable less plots devoted to such yields when compare to Ha Tay or Phu Tho (see Table 3.2).

At the national level we can see average yields of both crops have increase by a small margin, however in the case of maize it draws to our attention the fact that households in the province of Dak Nong have a significant drop in average maize yield while Khanh Hoa has a significant increase. Average yields in female-headed household are usually lower than in male-headed households, however this gap seems to be closing over time since average yield for women increase in respect to 2014 for both rice and maize production while male-headed households average production decreased.

In the case of rice production households seem to have higher average yields when they are located at higher income quintiles, as for maize we see the highest yield is for middle income families in 2016. When looking at the change of these variables from 2014 to 2016 we see that richer households are decreasing the average production of both crops. It is possible that as households diversify their income with off-farm activities the total production of crops could decrease because inputs such as labor or land are put into other higher return activities (for example, animal breeding).

Table 3.3: Average household production of rice and maize (kg)

	Rice production			Maize production		
	2014	2016	Difference	2014	2016	Difference
Total	3,902.4	3,923.4	21.0	1,418.9	1,429.4	10.5
Ha Tay	1,391.3	1,538.7	147.4	1,021.7	719.4	-302.3
Lao Cai	1,842.1	2,382.5	540.4	1,400.8	1,525.8	125.0
Phu Tho	1,176.2	1,216.9	40.7	623.7	641.4	17.7
Lai Chau	2,647.1	2,375.5	-271.6	740.0	1,347.9	607.9
Dien Bien	2,220.7	2,190.9	-29.8	1,547.6	1,627.6	80.0
Nghe An	1,751.3	1,713.0	-38.3	450.8	750.7	299.9
Quang Nam	2,009.3	1,955.2	-54.1	590.5	617.7	27.2
Khanh Hoa	2,752.8	1,585.2	-1,167.6	3,285.7	6,567.5	3,281.8
Dak Lak	5,169.9	4,097.4	-1,072.5	3,067.8	3,609.6	541.8
Dak Nong	2,541.0	1,890.9	-650.1	8,515.8	3,317.9	-5,197.9
Lam Dong	2,214.6	2,340.0	125.4	1,289.3	1,610.0	320.7
Long An	21,901.1	24,862.5	2,961.4	-	-	-
Gender of HH Head						
Female	2,937.7	3,639.2	701.5	958.9	1,082.3	123.4
Male	4,117.9	3,611.6	-506.3	1,486.6	1,477.1	-9.5
Income Quintile						
Lowest	1,562.4	1,897.7	335.3	1,083.0	1,022.0	-61.0
Second lowest	2,252.4	2,170.0	-82.4	1,412.8	1,158.5	-254.3
Middle	2,143.1	3,518.9	1,375.8	1,224.8	2,156.2	931.4
Second highest	4,295.9	4,336.8	40.9	1,608.3	1,786.0	177.7
Highest	10,396.8	7,502.9	-2,893.9	2,000.1	1,467.6	-532.5
Number of observations	4,505	3,908		4,505	3,908	

Notes: Information is based on plot level data. Households often own several plots and grow different crops on them which is why the number of observations is higher than the total number of households involved in agriculture.

In Table 3.4 we analyze the productivity levels for rice and maize production. We notice that the province of Long An has the highest level of rice yield per square meter in 2016, while Dak Nong has the lowest level of productivity in this crop. For maize we see the province of Ha Tay has the highest level of productivity. At the national level the yield per square meter has not changed significantly for any of the crops, however it is worth noting that the productivity levels in Dak Lak were significantly higher in 2014 compare to 2016. Moreover, female-headed households have higher yields per square meter compare to male-headed households.

In general, households at higher tiers of income quintiles report higher levels of productivity, except for middle income households of maize production in 2016. This is something we expect because richer households tend to have better access to inputs, machinery and credit markets. Also, education abd ability are very correlated with income so we expect that more educated and skilled farmers make better use of their resources and hence come out with higher levels of productivity. When we observe the levels of

productivity taking into account the production quintiles, we see that as production increases the productivity increases up to a certain level and then it starts to decline. This happens because in the short run agricultural production in small-scale farms can face diminishing marginal returns, making it harder to maintain high levels of productivity for relatively high levels of production.

Table 3.4: Average plot production per square meter of rice and maize (kg per sqm)

	Rice production			Maize production		
	2014	2016	Difference	2014	2016	Difference
Total	1.00	1.00	0	0.70	0.80	0.1
Ha Tay	0.90	1.10	0.2	1.50	2.6	1.1
Lao Cai	0.70	0.80	0.1	0.40	0.80	0.4
Phu Tho	0.90	0.90	0	1.1	1	-0.1
Lai Chau	0.70	0.70	0	0.4	0.60	0.2
Dien Bien	0.70	0.70	0	0.40	0.40	0
Nghe An	0.90	0.90	0	0.5	0.7	0.2
Quang Nam	1.10	1.00	-0.1	0.9	0.8	-0.1
Khanh Hoa	1.20	0.80	-0.40	0.60	0.40	-0.20
Dak Lak	2.40	1.00	-1.40	0.70	0.70	0
Dak Nong	0.80	0.60	-0.2	0.70	0.40	-0.30
Lam Dong	0.50	0.70	0.2	0.60	0.40	-0.2
Long An	1.50	1.60	0.10	-	-	-
Gender of HH Head						
Female	1.10	1.00	-0.1	0.7	0.70	0
Male	0.90	1.00	0.1	0.70	0.80	0.1
Income Quintile						
Lowest	0.80	0.80	0	0.50	0.50	0
Second lowest	0.90	0.90	0	0.80	0.80	0
Middle	0.90	1.10	0.20	0.70	1.20	0.5
Second highest	1.20	1.10	-0.1	0.80	0.80	0
Highest	1.10	1.10	0.00	1.00	0.80	-0.2
Production Quintile	1	1	0			
Lowest	1.00	0.90	-0.1	1.10	0.60	-0.5
Second lowest	1.20	0.90	-0.3	0.70	0.60	-0.1
Middle	0.90	1.00	0.10	0.80	0.60	-0.2
Second highest	0.90	0.90	0	0.70	1.00	0.3
Highest	1.00	1.00	0.00	0.60	1.00	0.4
Number of observations	8,323	7,305		8,323	7,305	

Notes: Information is based on plot level data. Households often own several plots and grow different crops on them which is why the number of observations is higher than the total number of households involved in agriculture.

As we previoulsy mention the most common livestock are pigs and poultry, in Figure 3.1 and 1.2 we can observe the percentage of households who have raised these anilmals in the last 12 months for the 2014 and 2016 survey rounds. The percentage of households raising pigs has not change significantlly between these two time periods at the national

level and this pattern seems to remain accross regions, with the expections of Nghe An and Lam Dong where we observe a drop in the breeding of pigs. For poultry we observe something very similar, except that now we see an increase in the province of Lam Dong –possibly households in this region could be producing less pigs to have more chickens– and a decrease in the province of Long An. The pattern over time for the gender of the head of households seems to hold for both pigs and poultry; only mild drops in the proportion of female-headed households breeding these animals. When observing households sorted by their income level it shows that higher income families have reduced their production of poultry but they have actually increase the production of pigs. It is possible that as households get richer they are able to grow animals with a higher return, even if the inputs needed for such livestock are more expensive.

Figure 3.1: Proportion of households raising pigs (2014-2016)

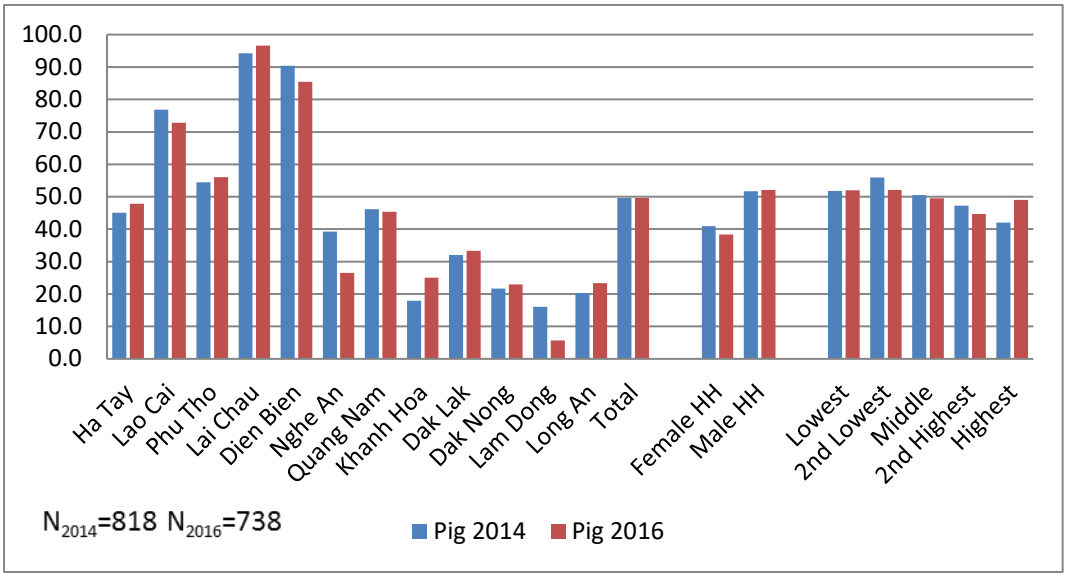
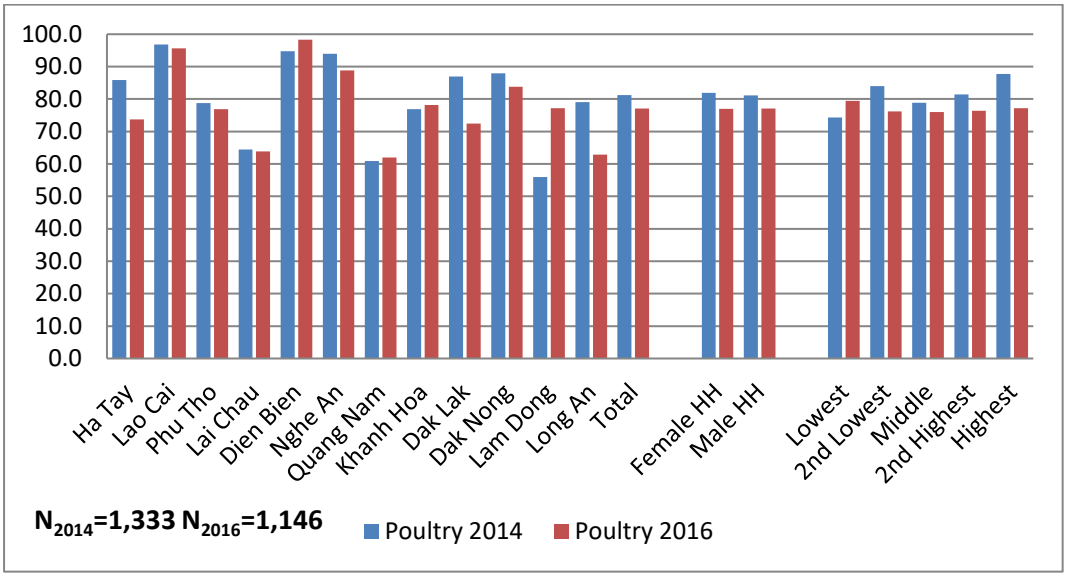


Figure 3.2: Proportion of household raising poultry (2014-2016)



3.3 Input use in crop and livestock production

The process of commercialization is not only one of selling output on the market. It also involves the purchase of industrially produced inputs as well as using the labour market to hire labour, if needed. Using marketed inputs allows the household to lessen some of the constraints faced in increasing production. It is therefore an integral part of the commercialization of agriculture.

Table 3.5: Selection of inputs in crop and livestock production in 2016

	Crop production				Livestock			
	Chemical	Org (Own)	Org (Bought)	Hired Labour	Feed (own)	Feed (bought)	Hired Labour	Energy, fuel
Total	95.3	34.3	24.1	62.4	89.8	73.3	1.7	66.1
Ha Tay	98.2	7.9	2.8	71.8	81.5	74.1	3.4	63.8
Lao Cai	97.8	70.7	0.0	82.6	96.7	66.3	0.0	66.3
Phu Tho	92.8	37.0	19.2	46.6	90.8	83.5	2.2	63.7
Lai Chau	78.8	72.0	0.0	74.6	100.0	27.7	1.7	73.1
Dien Bien	91.3	92.2	26.1	71.3	99.1	63.2	0.9	88.9
Nghe An	91.0	59.9	10.7	62.1	97.1	82.9	0.6	68.2
Quang Nam	97.9	45.2	56.9	46.4	92.7	86.7	0.0	62.0
Khanh Hoa	100.0	0.0	25.9	36.2	84.4	46.9	3.1	34.4
Dak Lak	98.6	20.0	51.4	72.9	97.1	72.5	0.0	58.0
Dak Nong	100.0	14.2	54.2	63.3	77.0	68.9	0.0	44.6
Lam Dong	100.0	2.9	37.1	52.9	68.6	48.6	0.0	20.0
Long An	96.7	18.7	27.1	67.8	76.6	95.2	4.8	87.9
Gender of HH Head								
Female	94.8	24.3	24.3	55.8	90.0	72.0	0.8	55.2
Male	94.3	36.7	23.8	63.0	89.3	73.2	1.9	68.0
Income Quintile								
Lowest	90.0	45.4	20.2	56.4	93.5	64.5	0.3	61.4
Second lowest	94.8	39.5	22.2	57.8	90.9	63.2	0.6	61.8
Middle	94.8	32.8	25.9	60.8	89.5	77.0	0.3	69.0
Second highest	95.5	27.8	25.8	64.9	88.9	78.6	1.8	66.1
Highest	97.0	24.5	25.5	69.2	83.0	86.1	6.2	72.6
Production Quintile								
Lowest	96.1	34.9	30.6	52.5	83.4	61.8	0.7	44.9
Second lowest	93.0	39.8	22.2	60.2	87.7	81.2	0.3	66.1
Middle	96.8	36.3	16.7	62.3	92.3	67.0	0.7	64.3
Second highest	96.8	43.5	16.3	78.4	95.5	72.0	1.0	73.4
Highest	96.1	54.3	14.9	80.5	88.7	84.0	5.1	81.2
N	2,028	2,028	2,028	2,028	1,487	1,487	1,487	1,487

Notes: The table reports the percentage of households who use each type of input, as it is common for farms to use several inputs the sum of the percentages is more than 100 percent. The first three columns under crop production refer to chemical fertilizer, organic fertilizer from own production and bought organic fertilizer, respectively. The number of observations for the crop production quintiles is 1,414 and for livestock is 1,470.

To investigate the characteristics of households through the lens of commercialization, we have constructed a household production scale measure defined as the value of agricultural production in 2016, when analyzing agriculture is the value of cultivated crops and when analyzing livestock is the value of current livestock holdings.[10]

[10] Given that many households who own livestock or grow crops are not able to report the value of their products, the number of observations when analyzing by production quantiles will be less than the other types of sorting.

Table 3.5 shows how many of the farming households in the sample are using three different kinds of fertilizer (chemical, self-provided organic, and bought organic fertilizer) as well as hired labour. In many provinces, nearly 100 percent of farmers are using chemical fertilizers. The lowest uptake is in Lai Chau where 78.8 percent of farming households use chemical fertilizers. Fewer households are using either of the two kinds of organic fertilizer, but there is greater variation between provinces. Understanding these differences in fertilizer use and their effect on output volume would be of interest. More male-headed households use own produced organic fertilizer than female headed households. While there are no significant differences in bought fertilizers (chemical and organic). Richer households tend to use the chemical fertilizer more frequently. There is a high degree of variation in uptake shares when looking at household production scale quintiles: while the smallest producers use less of all three kinds of fertilizer, there seems to be a substitution of bought organic fertilizer for self-produced organic fertilizer as production increases.

There is also significant province level variation in the share of farming households hiring labour: the provinces Phu Tho, Quang Nam and Khanh Hoa have the lowest rates of hiring labour at or below 50 percent of farming households; on the other hand, of the surveyed farmers in Lao Cai, 82.6 percent hires labour. Fewer of the households in the lowest income quintile hire labour. This can be explained by both financial constraints and small production scales for the poorest households. There is a difference of almost 7 percent across sex of household head that hire labor; it is possible for women to have more difficulties to hire and monitor workers that are not part of the household. We can see that farms with higher levels of production are more likely to hire labor: as production increases, the household cannot supply the needed amount of labour, and must instead hire labour.

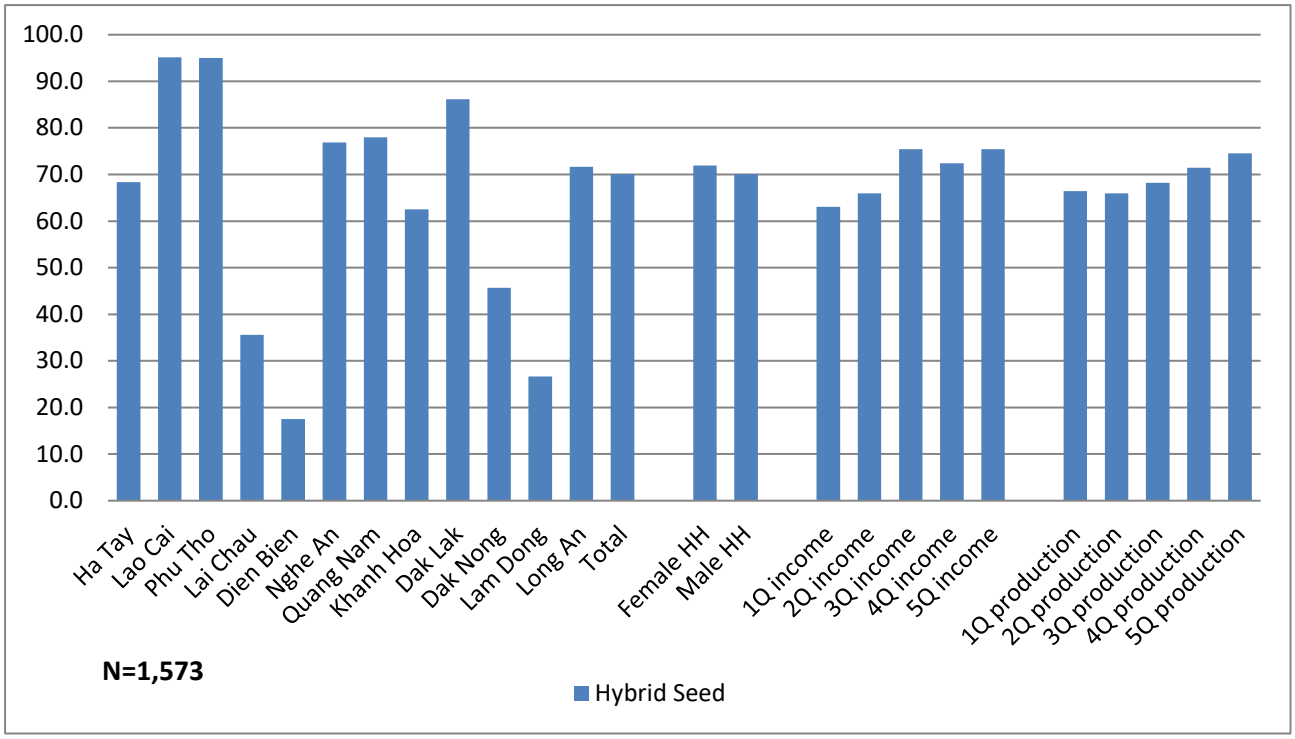
In Table 3.5 we can also see some of the most common inputs in livestock production. Feeding animals with own products is a very common practice, at the regional level we observe that all households in Lai Chau do this to produce livestock, while only 27.7 percent of households buy some type of food for their animals. This image contrasts with Long An where in fact the proportion of households buying food for their animals (95.2 percent) is larger than households using their own production to feed their livestock (76.6 percent). Another interesting feature is that hired labor is generally low, meaning that breeding animals is not intensive in labor use as compare to growing crops.

Female-headed households do not seem to difer much in terms of feding animals from own or bought production, however we do see a significant difference in hiring labor and energy use. As income increases, all inputs of agriculture increase except fot own produced

feed (this is expected given that is substituted by bought feed). Moreover, for higher levels of production all inputs in livestock production increase.

We now examine inputs in rice production in more detail. As Table 3.2 shows, rice is by far the most commonly grown crop and is therefore worth studying in detail. Figure 3.3 shows which types of rice seed rice growers normally use. The choice of seed is affected by cost, expected yield, as well as availability. While hybrid seeds are somewhat more costly than other seeds, there is evidence that hybrid seeds on average increase yields by 15-20 percent.[11] Hybrid seeds, either imported from China or produced in Vietnam, is the most common type of seed. It is used by 70 percent of all rice growers. There are, however, variations between provinces. In Dien Bien, only 17.5 percent use hybrid seeds. This is partly due to the fact that northern upland provinces do not have as much water as other parts of the country. In this climate hybrid seeds do not produce the same gain in yields as in water-abundant areas. Also, many of the northern upland farmers grow sweet rice instead of normal rice. It is perhaps surprising that very few farmers in Long An use hybrid seed as farmers in Long An appear quite commercialized in other aspects. However, more of the difference can be attributed to increased uptake of an improved local variety. Dak Nong also has relatively low uptake of hybrid seed and relatively high uptake of an improved local variety.

Figure 3.3: Use of hybrid rice seed



[11] See, for instance, "Hybrid Rice for Food Security", a FAO Factsheet published in 2004.

Slightly more female-headed households use hybrid seeds compared to male-headed households. There is a slight tendency that fewer poor households use hybrid seeds. Instead, poor households are more prone to using old local varieties. Turning to the production scale quintiles, there is an upward tendency in the use of hybrid seeds as the level of production increases are slightly fewer in the larger quintiles that use hybrid seeds.

In Table 3.6 we can see the average household expenditure on inputs for the two most common crops in our sample; rice and maize. The numbers show that monetary expenditures on inputs have increased in the production of rice while for maize there is a decrease with respect to the level of 2014. However when looking at the geographic disaggregation of the data we can see that in many provinces housholds are on average spending less in inputs for rice production but in the province of Long An farmers have significantly increase their expenditure on inputs. For maize production is worth noting that households in Nghe An and Quang Nam have more than doubled their expenditure on inputs while households in Long An completely stop their investments in this crop.

Table 3.6: Average household expenditure on inputs ($)

	Rice production			Maize production		
	2014	2016	%Δ	2014	2016	%Δ
Total	9,068.1	11,102.0	22.4	2,559.6	2,448.8	-4.3
Ha Tay	4,321.2	4,347.4	0.6	1,961.8	1,423.3	-27.4
Lao Cai	5,844.3	6,341.7	8.5	3,936.1	3,349.7	-14.9
Phu Tho	4,045.8	3,641.5	-10.0	1,660.5	1,344.3	-19.0
Lai Chau	5,668.9	4,539.7	-19.9	1,304.9	1,941.0	48.7
Dien Bien	4,072.9	4,558.4	11.9	1,533.7	1,466.5	-4.4
Nghe An	4,856.9	5,909.1	21.7	968.2	2,572.8	165.7
Quang Nam	5,701.5	5,744.4	0.8	1,149.5	2,969.8	158.4
Khanh Hoa	6,823.5	4,332.8	-36.5	4,325.0	7,628.8	76.4
Dak Lak	13,079.5	11,496.2	-12.1	5,676.8	3,199.2	-43.6
Dak Nong	6,273.4	4,565.0	-27.2	12,618.7	8,647.1	-31.5
Lam Dong	8,327.1	7,342.7	-11.8	2,673.2	4,138.0	54.8
Long An	43,571.0	81,247.1	86.5	146.1	2,200.0	1405.7
Gender of HH Head						
Female	7,573.7	10,652.9	40.7	2,630.8	1,756.5	-33.2
Male	9,401.9	10,219.8	8.7	2,549.4	2,546.0	-0.1
Income Quintile						
Lowest	4,384.0	5,503.9	25.6	1,870.0	1,622.1	-13.3
Second lowest	5,889.8	5,432.3	-7.7	2,586.6	1,833.1	-29.1
Middle	5,781.1	10,689.8	85.0	2,311.0	3,297.2	42.7
Second highest	10,529.8	12,583.3	19.4	2,683.0	3,358.4	25.2
Highest	20,850.3	21,152.6	1.8	3,723.3	3,535.8	-5.0
N	1,703	1,564		524	500	

Notes: This table shows the average monetary expenditure for households growing the two most common crops in the sample Some of the inputs in the sample are seeds, fertilizer, labour, rent of machinery and cattle for ploughing. The 2014 data has been adjusted to reflect 2016 values.

As we have previously mentioned, women may face additional challenges to obtain inputs with respect to men. The data shows that female-headed households spend less on inputs relative to men, nonetheless for rice production we see this gap is closing over time since female-headed households increase their average expenditure by 40.7 percent while male-headed households increase it by less than half of that. For maize, the gap was indeed smaller in 2014 but for 2016 this gap increased due to the significant drop in average expenditure on inputs in female-headed households.

There is a clear positive relationship between the level of income and the expenditure on inputs for both crops. However it is interesting that it is actually middle income households whose expenditure on inputs is increasing more significantly; more than double for rice production and 42.7 percent for maize production. Moreover, in high income farms we see the level of input expenses seems more stable over the period 2014-2016.

3.4 Market access for rice seeds

Table 3.7 shows the type of stores where rice farmers usually purchase their seeds and the average distance to the place they usually obtain rice seeds from. The largest share, 31.6 percent, of rice growers usually gets their rice seeds from cooperatives or communes. This is followed by seed companies (21 percent) and local markets (19.9 percent). Around 13 percent of rice growers never buy seeds. In Dien Bien 90.4 percent of rice growers never buy seeds, while this figure is 73.3 percent in Lam Dong. This partly explains the lack of hybrid seed use in these provinces that was noted in Figure 3.3 above. In the province of Long An hybrid seed usage was quite low, yet 51.8 of rice farmers purchase seed from companies.

It is interesting to see that in some provinces the distance to seed shops does not seem to deter farmers from buying such input.

As households reach higher income quintiles seed purchases are more common, however there does not seem to be a consistent change in preference towards the source of procurement. Fewer households with large crop operations purchase seeds from local markets and instead purchase more from cooperatives and communes. We also observe that households with low production tend to be located far from seed shops; this may suggest that access to markets for inputs is potentially a binding restriction for rice farmers to reach higher levels of production.

Table 3.7: Sources for rice seed procurement and distance to preferred seed purchase location

	Never buys	Cooperative	Company	Local market	Stockist	Other	Distance (Kms)
Total	13.4	31.6	21.0	19.9	13.3	0.8	10.2
Ha Tay	1.7	52.2	21.9	16.7	6.9	0.6	4.4
Lao Cai	4.8	15.7	1.2	78.3	0.0	0.0	95.8
Phu Tho	3.5	50.2	27.4	6.6	12.0	0.4	5.4
Lai Chau	5.1	64.4	2.5	26.3	1.7	0.0	3.5
Dien Bien	90.4	4.4	0.9	1.8	2.6	0.0	7.3
Nghe An	6.1	46.9	32.7	6.8	4.8	2.7	2.8
Quang Nam	7.4	1.5	19.1	30.4	40.2	1.5	8.7
Khanh Hoa	28.1	0.0	3.1	62.5	6.3	0.0	1.6
Dak Lak	26.2	12.3	3.1	38.5	20.0	0.0	2.7
Dak Nong	31.4	2.9	34.3	31.4	0.0	0.0	2.8
Lam Dong	73.3	0.0	0.0	20.0	6.7	0.0	1.1
Long An	7.8	2.8	51.8	5.0	30.5	2.1	5.1
Gender of HH Head							
Female	9.1	29.8	24.2	19.6	15.8	1.4	9.1
Male	14.4	32.0	20.3	20.0	12.7	0.7	10.4
Income Quintile							
Lowest	21.9	26.9	17.6	20.7	11.4	1.5	6.7
Second lowest	13.3	36.6	17.3	20.3	11.4	1.1	6.7
Middle	12.9	34.8	21.0	18.7	12.4	0.3	6.7
Second highest	9.3	27.7	24.7	22.7	15.3	0.3	26.9
Highest	7.8	30.6	26.7	16.4	17.7	0.9	3.2
Production Quintile							
Lowest	16.0	31.3	10.3	22.1	18.3	1.9	19
Second lowest	19.9	27.9	18.5	23.2	9.4	1.1	20.9
Middle	15.9	31.0	19.1	22.7	11.2	0.0	7.8
Second highest	10.7	35.4	21.8	20.7	11.4	0.0	4
Highest	8.6	44.2	16.9	16.1	13.5	0.7	4.9
N	1,573	1,573	1,573	1,573	1,573	1,573	1,362

3.5 Vaccinated livestock

In Figure 3.4 and Figure 3.5 we present the average household proportion of vaccinated livestock for the period 2014 to 2016 for the two main livestock types (pigs and poultry). There has been a significant increase in the vaccination of poultry (from 50 percent to 60 percent) at the national level. Quang Nam and Lam Dong do, however, show a slight downward trend in the 2014-2016 period. In 2005, the Ministry of Agricultural and Rural Development issued Decision 63/2005/QĐ-BNN. The Decision mentioned that all livestock were to be vaccinated with seven types of vaccine. But not until 2008 did the vaccination of livestock change. The changes in 2008 occurred due to, among other things, outbreaks of Foot and Mouth and Blue Ear Diseases which caused a lot of death in livestock. Further, the issuance of instruction 2349/CT-BNN-TY established a network of quarantine stations. The commercialization process also plays an important role in the increase of the vaccination rate: at larger production scales, a single infection can spread, making inoculation a more worthwhile investment.

Figure 3.4 demonstrates that households with higher income tend to have a higher proportion of vaccinated livestock. It is also worth noting that for the smallest levels of

production value there was a significant drop in the vaccination rate for pigs. Figure 1.5 provides data on the vaccination rate of poultry in the period 2014 to 2016. The figure shows that female-headed households had the same vaccination rate in 2016. Moreover we can see an increase in the vaccination rate of poultry in the high income and high production level households.

Figure 3.4: Average household proportion of vaccinated pigs

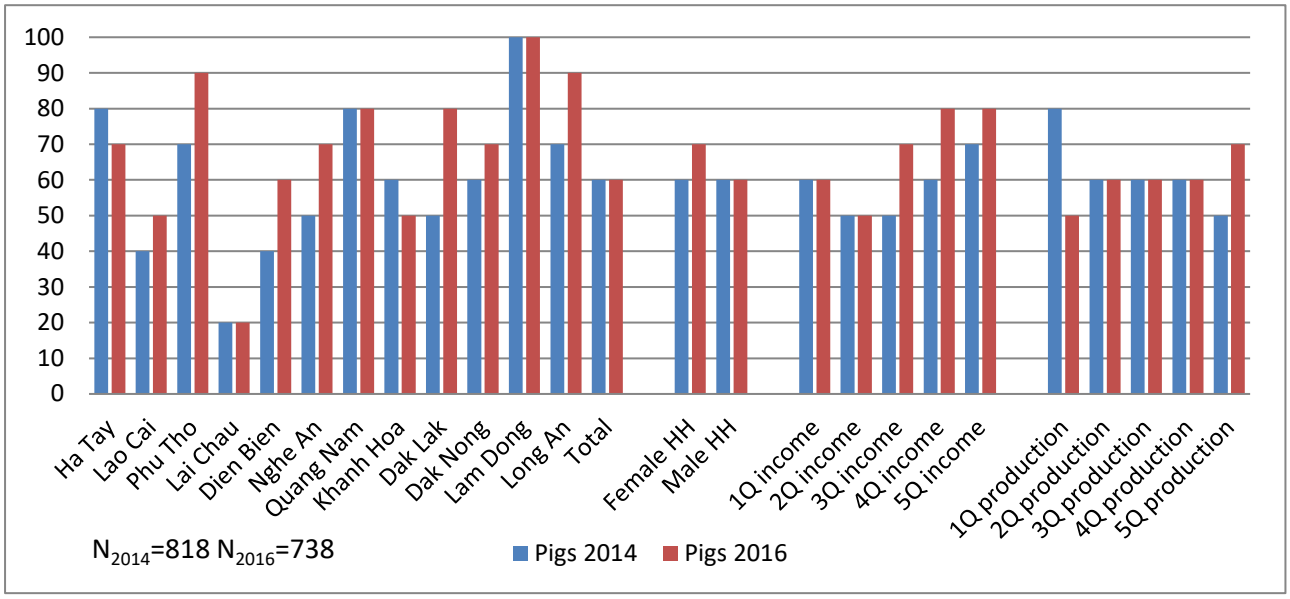
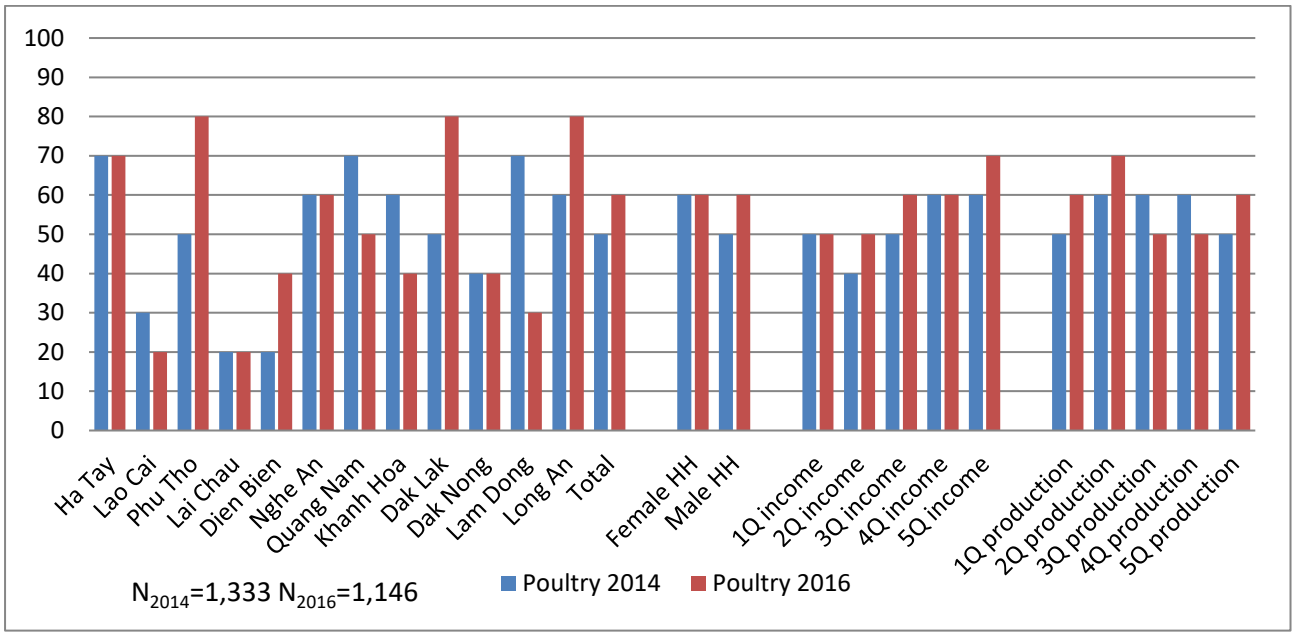


Figure 3.5: Average household proportion of vaccinated pigs

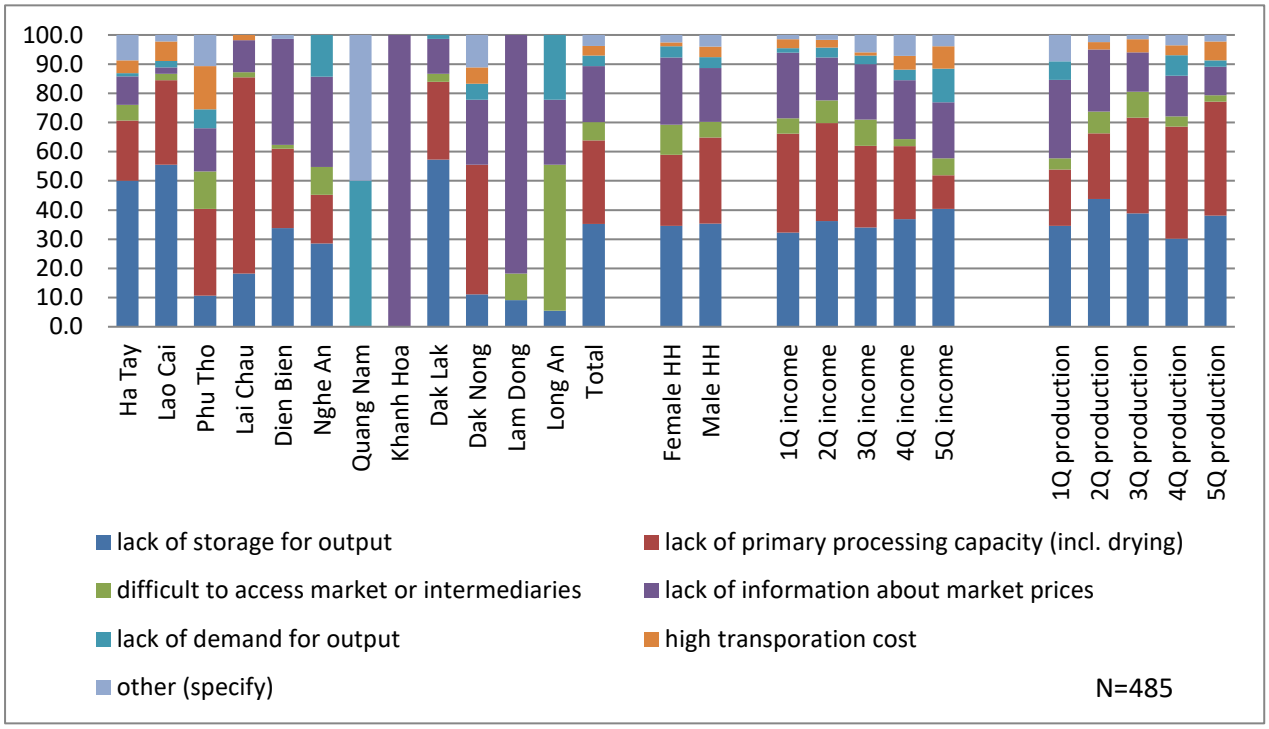


3.6 Commercialization

The VARHS 2016 not only collects data on difficulties in relation to accessing inputs, but also on problems related to the process of selling output. In general, 76 percent of the households do not report any difficulties with selling their output. Figure 3.6 shows that

for households who did report to have some problem when selling their crops, lack of storage and lack of primary processing capacity (incl. drying) are the most common issues; 35.3 and 28.7 percent of households pointed this as a main problem for marketing their products, respectively. Moreover, about 19 percent of households report lack of information about prices as a main problem. We must be careful with the interpretation of this data at the regional level since only 485 households (less than one quarter of the sample) reported having problems of this kind; for example we might be tempted to deem lack of information as one of the main problems for farms in Khan Hoa since 100 percent of the households in that province report that as a problem, however there are only 3 households –out of 107 in that region– reported a problem in the first place.

Figure 3.6: Most important difficulty after harvest in 2016 (percent)



When looking at income quintiles the number of households reporting a problem decreases (not reported); for high income families lack of storage seems to be a more common problem (though the number of total households reporting issues is lower as income increases) while lack of primary process capacity decreases with income. Moreover the problem price information seems to be uniformly distributed across income, this is interesting as we normally expect that higher income reduces this problem. As production increases the problems for storage and processing are more common, however as households reach higher levels of production the problem of price information is mitigated. As households produce more a higher proportion of them report having at least one issue for marketing their product (not reported); lack of storage space and lack of primary

process capacity are the most common problems for households in the highest production quintile.

In Figure 3.7 we can observe the two most common buyers for agricultural products in 2016 are private households and traders; more than 99 percent of the households that report selling crops point these two types of buyers as their main source for marketing their products. At the national level we see a very balance relationship between these two sources, however in Khanh Hoa more than 86 percent of households report selling their crops via traders instead of private household or other buyers, while in Ha Tay almost three quarters of the households report selling their products to private households.

There is a higher proportion of male-headed households using traders as a channel to commercialize their output, though this difference is only about 8 percent. Households in the highest income quintile seem to prefer private traders. It is surprising that farms in the lowest and highest production quintiles have similar preferences towards private households.

Figure 3.7: Most important buyer in 2016 (percent)

Table 3.8 below shows how much of total output household trade for the two most important crops in Vietnam. In 2014 and 2016, the average household ratio of production to trade for rice was around 0.3 (i.e. on average households sold or battered 30 percent of all their rice production and the rest was either stored or consumed)[12]. It seems that richer households are not on average more commercially-oriented in 2016; we can see how the ratio actually dropped in respect to 2014 for rice production in the highest income

[12] For soy beans, tea and coffee the ratio of production to trade was more than 0.7, meaning the adoption of these crops refer to a process of market orientation on rural households.

quintiles The production of maize presents a modest decrease in the level of commercialization with respect to 2014; such drop seems to be stronger for female-headed where the decrease with respect to 2014 is 20 percentage points smaller. As for maize production sorted by income level, we observe a general drop in all levels in income from 2014 to 2016.

Table 3.8: Average household ratio of production to trade for rice and maize

	Rice			Maize		
	2014	2016	Δ	2014	2016	Δ
Total	0.3	0.3	0	0.4	0.3	-0.1
Ha Tay	0.3	0.2	-0.1	0.5	0.3	-0.2
Lao Cai	0.3	0.2	-0.1	0.4	0.2	-0.2
Phu Tho	0.2	0.1	-0.1	0.2	0.2	0
Lai Chau	0.2	0.1	-0.1	0.1	0	-0.1
Dien Bien	0.2	0.1	-0.1	0.4	0.3	-0.1
Nghe An	0.3	0.3	0	0.2	0.3	0.1
Quang Nam	0.4	0.4	0	0.7	0.6	-0.1
Khanh Hoa	0.4	0.5	0.1	0.9	0.5	-0.4
Dak Lak	0.4	0.4	0	0.7	0.8	0.1
Dak Nong	0.4	0.4	0	0.8	0.4	-0.4
Lam Dong	0.3	0.5	0.2	0.5	0.7	0.2
Long An	0.9	0.9	0	-	-	-
Gender of HH Head						
Female	0.4	0.3	-0.1	0.4	0.4	0
Male	0.3	0.3	0	0.4	0.2	-0.2
Income Quintile						
Lowest	0.3	0.3	0	0.4	0.3	-0.1
Second lowest	0.3	0.3	0	0.3	0.2	-0.1
Middle	0.3	0.3	0	0.4	0.3	-0.1
Second highest	0.4	0.3	-0.1	0.4	0.2	-0.2
Highest	0.4	0.3	-0.1	0.4	0.3	-0.1
Number of observations	1,703	1,564		524	500	

Notes: This table shows the average household proportion of production that is traded in the markets.

As we saw in Table 3.2, less rice is grown in the southern provinces sampled in the survey, but from Table 3.7 we see that larger shares of the rice production are traded, compared to the northern provinces. One contributing factor to this difference is the fact that farms in the Northern provinces are typically smaller. These households consume a larger part of their production, leading to lower traded shares. Furthermore, part of this difference can be due to commercial remoteness of households in the Northern provinces; these conditions coupled with poor infrastructure increase transaction costs significantly. For small-scale farmers, these costs may be just too high to make it profitable to participate in the market. In table 3.9 we can observe, by production quintiles and household head gender, the market participation rate and two variables that relate to market access: the distance to main rice seed supplier and the distance to main output buyer. These last two variables are positively related to transaction costs. As production increases the percentage of output traded also increases, also female households tend to trade a higher proportion of their output according to the data. It is worth noting that there is a clear negative relationship between the market participation rate and the distance to the main

buyer, however the distance to main rice seed supplier does not seem to have any relation with the output traded.

Table 3.9: Distance to seed purchase location and main output buyer (rice farmers)

	Output traded (percent)	Distance to main rice seed supplier (km)	Distance to main rice buyer (km)
Total	31.1	12.6	20.9
Gender of HH Head			
Female	32.6	11.7	23.3
Male	30.7	12.8	20.4
Production Quintile			
Lowest	4.8	10.7	36.3
Second lowest	14.1	11.5	26.7
Middle	27.5	12.5	17.6
Second highest	39.8	16.2	16.1
Highest	69.3	12.1	8.3
Number of observations	3,279	3,043	3184

Notes: Based on VARHS 2014-2016, households growing at least some rice

We next turn to the commercialization level of households' livestock production. In Table 3.10 we show the average household ratio of livestock production to trade (the number of animals sold divided by the number of animals bought or born from own livestock). Overall, 60 percent of pigs and 20 percent of poultry are sold or bartered in rural households in 2016. As we can also see in Table 3.10, the Northern mountainous provinces including: Lai Chau, and Dien Bien have the lowest commercialization level of pig production, while Phu Tho, Nghe An, Quang Nam, and Lam Dong have the highest level, with more than 60 percent of the production being used for commercial purposes. It is worth noting that this variable has increased considerable since 2016, such increase has been more notorious in households at the highest income levels.

For poultry Lao Cai, Dak Nong and Lam Dong have the lowest level of commercialization in 2016; for the latter two provinces this represents a significant drop with respect to 2014 with just 10 percent of production being sold or bartered. It is surprising that in these two provinces the decrease in the level of poultry commercialization is very high with drops of 60 and 70 percent, respectively. Khanh Hoa is the most commercialized province in terms of poultry production with 50 percent of all chicken/duck/quail sold or bartered and it actually increased it commercialization with respect to 2014 (the only province with an increase in this variable).

Table 3.10: Average household ratio of production to trade for pigs and poultry

	Pigs			Poultry		
	2014	2016	Δ	2014	2016	Δ
Total	0.2	0.6	0.4	0.5	0.2	-0.3
Ha Tay	0.2	0.8	0.6	0.5	0.2	-0.3
Lao Cai	0.1	0.6	0.5	0.4	0.1	-0.3
Phu Tho	0.1	0.7	0.6	0.5	0.2	-0.3
Lai Chau	0.3	0.5	0.2	0.7	0.2	-0.5
Dien Bien	0.4	0.4	0	0.8	0.2	-0.6
Nghe An	0.1	0.6	0.5	0.5	0.1	-0.4
Quang Nam	0.2	0.8	0.6	0.4	0.5	0.1
Khanh Hoa	0.4	0.5	0.1	0.6	0.3	-0.3
Dak Lak	0.2	0.6	0.4	0.6	0.2	-0.4
Dak Nong	0.2	0.7	0.5	0.7	0.1	-0.6
Lam Dong	0.1	0.8	0.7	0.8	0.1	-0.7
Long An	0.1	0.7	0.6	0.6	0.4	-0.2
Gender of HH Head						
Female	0.2	0.6	0.4	0.5	0.2	-0.3
Male	0.2	0.6	0.4	0.6	0.2	-0.4
Income Quintile						
Lowest	0.3	0.5	0.2	0.6	0.2	-0.4
Second lowest	0.2	0.6	0.4	0.6	0.2	-0.4
Middle	0.2	0.7	0.5	0.5	0.2	-0.3
Second highest	0.1	0.7	0.6	0.6	0.2	-0.4
Highest	0.2	0.7	0.5	0.6	0.2	-0.4
Number of observations	818	738		1,333	1,146	

Notes: The ratios are computed considering only households who have reported raising pigs of poultry in the last 12 months.

3.7 Common Pool Resources

In terms of the number of households involved, common property resources (CPR) work is the third most important source of rural household income, after agriculture and wage work (see Chapter 2). The most common type of CPR extraction is collection of wood used for fuel. This exemplifies the dilemmas related to CPR use: CPRs contribute essential inputs to households' production, such as sources of energy. On the other hand, intense CPR extraction threatens ecological sustainability, for example when heavy firewood collection leads to deforestation. In a country as densely populated as Vietnam, such over-use of natural resources is a constant risk.

Table 3.11 shows that between 2014 and 2016, there was a significant decrease in the proportion of households involved in the catching of aquatic products from the sea or river and the collection of forestry products or hunting. There are large differences between provinces: households depend more heavily on CPR collection (both fishing and wood collection) in the mountainous provinces Lai Chau and Dien Bien; a decrease of 36.2 percent is observed in the province of Quang Nam in forestry activities while the province of Long An reports significant drops in both CPR activities.

There is also a large difference in intensity of CPR-related activity between male- and female-headed households. Male-headed households are on average more involved in both types of CPR activities; however the decreasing trend is present in both female and male-

headed households. The poor tend to be more dependent on CPR activities than the rich. Households with agriculture as their main source of income are also more likely to be involved in CPR activities compared to households that rely mainly on wage labour or non-farm enterprises.

Table 3.11: Proportion of households involved in common poor resources activities

	Fishing			Forestry[13]		
	2014	2016	Δ	2014	2016	Δ
Total	7.5	3.9	-3.7	30.0	21.2	-8.7
Ha Tay	2.1	1.9	-0.2	3.8	0.5	-3.3
Lao Cai	1.9	1.9	0.0	80.8	67.3	-13.5
Phu Tho	1.1	0.3	-0.8	23.2	12.9	-10.3
Lai Chau	19.8	18.3	-1.5	89.3	87.0	-2.3
Dien Bien	17.9	14.6	-3.3	82.9	83.7	0.8
Nghe An	4.5	4.5	0.0	28.3	20.2	-8.1
Quang Nam	1.8	0.9	-0.9	51.7	15.5	-36.2
Khanh Hoa	5.6	0.0	-5.6	22.4	19.6	-2.8
Dak Lak	3.8	0.6	-3.1	16.4	26.4	10.1
Dak Nong	5.3	0.8	-4.5	25.6	24.1	-1.5
Lam Dong	7.9	2.6	-5.3	26.3	30.3	3.9
Long An	29.0	9.3	-19.8	15.1	4.0	-11.1
Gender of HH Head						
Female	5.3	2.4	-2.9	23.5	15.8	-7.7
Male	8.2	4.3	-3.9	31.9	22.9	-9.0
Income Quintile						
Lowest	8.1	5.1	-3.0	48.8	36.8	-12.0
Second lowest	8.1	4.9	-3.3	44.6	33.2	-11.4
Middle	6.3	4.1	-2.1	31.4	18.0	-13.4
Second highest	7.2	4.3	-2.9	20.9	12.9	-8.0
Highest	8.3	0.9	-7.3	11.1	5.3	-5.8
Number of observations	2,664	2,664		2,664	2,664	

Notes: The information is based on the panel dataset 2014-2016. The percentages indicate households participate in CPR activities, yet this does not imply this is the household's main activity.

3.8 Summary

This chapter presented statistics related to crop production, livestock and common pool resource activities (i.e. fishing and forestry). The proportion of households involved in agriculture and livestock production has diminished between 2014 and 2016. This could be due to a process of national development and industrialization where households leave

[13] CPR forestry includes: (1) cinnamon, (2) anise, (3) pine, (4) oil trees, (5) varnish trees, (6) bamboo, (7) fan palm trees, (8) water coconut, (9) hunted animal, (10) fuel wood, (11) timber, (12) rattan, (13) mushrooms, (14) nuts, (15) herb, (16) roots, and (17) other. Of these, fuel wood collection is by far the most common activity. CPR aquaculture includes: (1) fish, (2) shrimp, (3) oyster, (4) crab, and (5) other aquacultures. The most common activity is fish production. Note that this chapter focuses on aquaculture products from common property resources (public lakes and streams; the sea), while Chapter 6 focused only on aquaculture products from own ponds.

the agricultural sector as alternatives such as work for wages, become increasingly profitable. We discussed the production structure as well as difficulties faced by farmers on the input side as well as the output side. The average household expenditure on inputs for rice production has increased dramatically since 2014; however it is worth noting that this increase has been partially driven by the expenditure in the province of Long An which in 2016 was at least 10 times higher than in the other provinces. Moreover, the increment in expenditure on inputs is coming mainly from middle income families.

Commercialization, understood as the degree to which farmers interact with markets, has been discussed throughout. For agricultural production, the degree of commercialization is highly correlated to the type of crops grown. For example, for coffee farmers in the Central Highlands, the goal is to sell the coffee on the market and use the money to satisfy consumption needs. Over 58 percent of all the plots in the survey are dedicated to rice production and on average households sell around 30 percent of the rice they produce. While households in maize production seem to be a little less commercialized with respect to 2014. We also analysed the level of commercialization of the two most important livestock; pigs and poultry. The data shows that in 2016 households on average traded 60 percent of their pig production and 20 percent of their poultry production. Here it is interesting to see that for pig this represented a significant increase with respect to 2014 while in poultry the 2016 ratio of production to trade actually represents a decrease.

In general, it is the richer households who are more commercialized. Among the surveyed provinces, there are also noteworthy differences. The Northern provinces are in general less commercially oriented than the southern provinces: they sell a smaller share of their output on the market and fewer households use hybrid seeds. This is especially the case for farmers in Dien Bien and Lai Chau. Here, fewer farmers use the labour market to hire labour, and it is more common to not buy additional fertilizer, except for what the farmer can produce.

In this chapter we also briefly discussed common property resources (CPRs). The data show that around one quarter of the households were involved in either of the two CPR activities (fishing or forestry). Out of these two activities, forestry is the most common, however it is interesting to see that there is a declining trend for CPR activities, if this pattern is caused by a declining availability of CPRs, for example as a result of deforestation, this may be correlated with environmental problems such as soil erosion and loss of biodiversity. These problems may have economic repercussions far beyond the limited role of CPRs as a source of household income. For example, soil erosion may lead to decreased productivity in agriculture and a loss of biodiversity could limit the tourism industry. Also, some CPR products may not be easy to replace. For example, firewood fills

the essential need for energy. If firewood resources are degraded, households must find other types of fuel, such as kerosene. This may be difficult or expensive if markets for such products are imperfect or non-existent. Currently, very few CPR collection activities are regulated by any type of organization. Stronger regulation may be desirable to slow the degradation of CPRs.

CHAPTER 4 NON-FARM HOUSEHOLD ENTERPRISES

4.1 Introduction

The on-going structural transformation process in Vietnam has led to an increase in the importance of non-agricultural incomes, both through waged employment and non-farm household enterprises. Kinghan and Newman (2017) document the fact that the diversification of household income away from agriculture in rural Vietnam has, on average, been welfare enhancing. This is consistent with much other evidence in developing country contexts that shows that engagement in non-farm activity is positively correlated with income and wealth in rural areas (Barrett et al., 2001; Bezu et al., 2012; Hoang et al, 2014; Lanjouw, 2001; Oostendorp et al, 2009).

The success of informal rural household enterprises often depends on the motivation for their establishment (Barrett et al., 2001; Bezu et al., 2012; Lay et al., 2008). For example, enterprises established out of necessity in response to income shocks are less likely to be successful in terms of profits and longevity. In contrast, enterprises that are established to exploit some comparative advantage or complementarities between different household activities have a better chance of success. In fact, Kinghan and Newman (2017) find that the success of household enterprise activities in rural Vietnam is associated with access to resources such as finance, education and markets, all of which vary across households.

In this chapter, we present statistics on the prevalence and nature of rural household enterprises based on the VARHS 2016. The survey gathers detailed data on all non-farm non-wage activities of households allowing us to explore their importance as a source of household income. We explore the types of households who own and operate enterprises and examine the characteristics of those enterprises. Given the importance of household enterprises as a source of income for many households we conclude the chapter with an analysis of the main constraints to the operation of household enterprises as reported by enterprise owners.

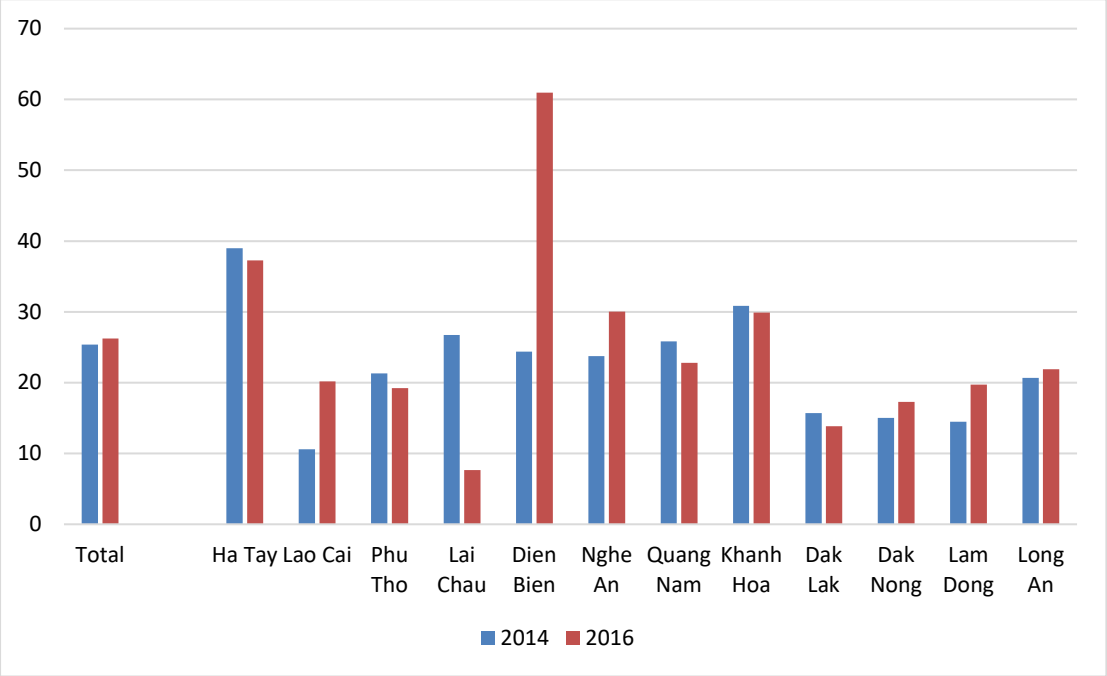
4.2 Prevalence

Figure 4.1 presents the share of households in the VARHS sample that operated a household enterprise in 2014 and 2016 based on a balanced panel of households surveyed in both years. On average 26.2 percent of households operated an enterprise in 2016, slightly more than in 2014 when 25.3 percent of the sample had an enterprise. Sixty-one percent of households in Dien Bien operated an enterprise in 2016, a substantial increase from 2014 when only 24.4 percent of households ran an enterprise. There is also a large within-province change in the proportion of households with an enterprise in Lai Chau falling from 26.7 percent of households in 2014 to only 7.6 percent of households in 2016.

For all other provinces, the proportion of households with an enterprise remained relatively stable between years.

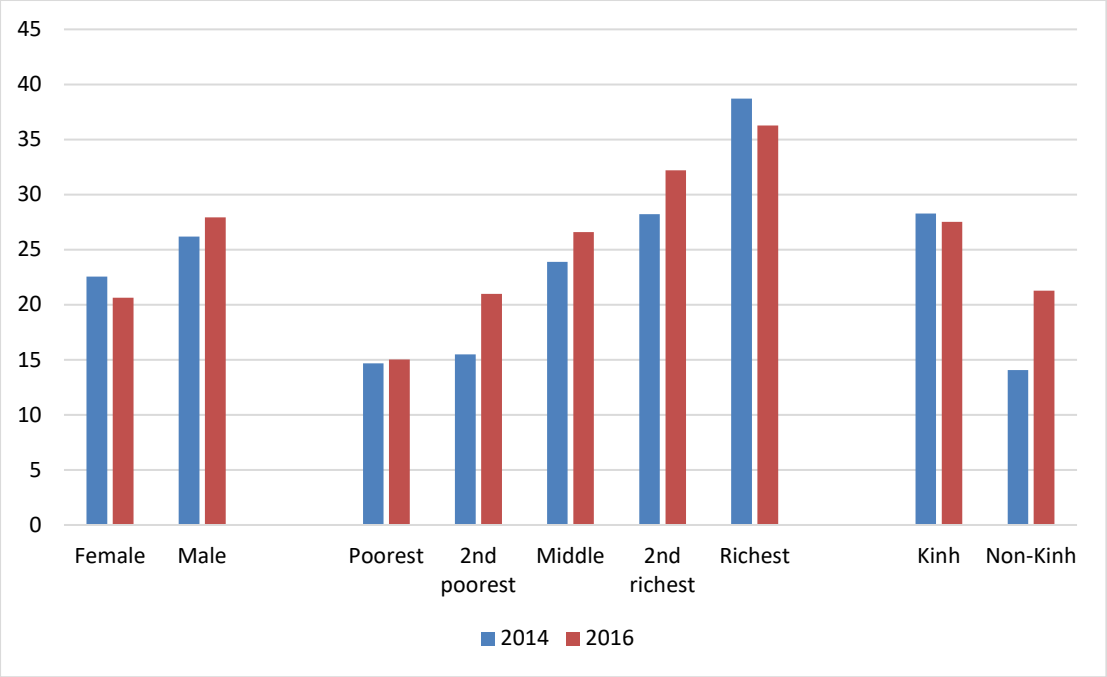
In Figure 4.2, the proportion of households with an enterprise is disaggregated by distinct characteristics of the households. A greater proportion of male-headed households operated an enterprise in 2016 than female-headed households. In fact, the proportion of female-headed households operating an enterprise declined from 22.5 percent in 2014 to 20.6 per cent in 2016. In contrast, the proportion of male-headed households that operated an enterprise increased slightly to 27.9 percent. Focussing on the individual household members that manage the household enterprises reveals a different picture, however, with 51.3 percent of household enterprises in our sample operated by women in 2016 (result not shown in the Figure). This suggests that the household head is usually not the main person responsible for the management of household enterprises.

Figure 4.1: Share of households with a household Enterprise (percent)



N 2016 = 2,666 and N 2014 = 2,666

Figure 4.2: Household enterprises by characteristic (percent with enterprise)



N 2016 = 2,666 and N 2014 = 2,666

Richer households were more likely than poor households to own an enterprise in 2016 with over 36 percent of households in the richest food expenditure quintile operating an enterprise compared with only 15 percent in the poorest quintile, and 26.6 percent in the middle quintile. For the richest households, however, the proportion of households with an enterprise declined by 2.4 percentage points between 2014 and 2016. Kinh households were more likely to operate an enterprise in both 2014 and 2016, although the proportion of non-Kinh households operating an enterprise increased from 14 percent to 21.3 percent between these years, closing the gap somewhat.

Overall, the VARHS 2016 data reveal that household enterprises were more associated with richer households than poorer households. While this should not be interpreted as a causal relationship, it does suggest that households at higher income levels have more opportunities to diversify income sources through household enterprise development.

4.3 Characteristics

Table 4.1 also shows the prevalence of household enterprises overall, by province, by the gender of the household head, by food expenditure quintile and by ethnic minority status but for the full sample of households surveyed in 2016 (Figures 4.1 and 4.2 are based on the balanced panel of households). The emphasis of Table 4.1 is the characteristics of the 813 enterprises observed in 2016, including whether the enterprise had a licence, was

located in the family home, in addition to the number of workers engaged in the enterprise, and the number of workers that were paid.[14]

Less than a quarter of household enterprises in 2016 were formal in that they had a business licence. There is a lot of variation across provinces in the extent of formality of household enterprises with the lowest proportions observed in Dien Bien (2.6 percent) and Lao Cai (4.8 percent) and the highest proportions observed in Lai Chau (50 percent) and Dak Nong (42.9 percent). It should be noted, however, that the latter provinces have fewer reported enterprises and so may not be representative of formal household business registrations in these provinces overall. Perhaps, unsurprisingly, business registration was much more common among male-headed households, in richer food expenditure quintiles and among non-ethnic minority households.

Table 4.1 also compares the characteristics of a balanced panel of 452 households with enterprises in both 2014 and 2016. Examining this reduced sample suggests that business registration increased between 2014 and 2016 from 23.7 percent of enterprises to 29.5 percent. This increase is statistically significant (at the 5 percent level).

Another measure of informality commonly used is whether the enterprise is located within the family home. We find in 2016 that most enterprises (56.2 percent) were in the household. Moreover, most were 'micro' enterprises having on average 2 workers, only 0.5 of which were hired workers. This highlights the fact that while these enterprises may be an important source of income for these households they are unlikely to contribute significantly to employment generation in rural areas.

Similar heterogeneity is observed across provinces and household characteristics in the proportion of enterprises that were in the family home. Most of the household enterprises in Dien Bien and Lao Cai were in the family home, the enterprises of households headed by women were more likely to be in the family home, as were the enterprises of households in the lower half of the wealth distribution, and those of ethnic minority households.

Comparing the balanced panel of households with enterprises in 2014 and 2016 we find a slight decline in the proportion of firms located in the family home between these years, and a slight decrease in the numbers employed but these differences are not statistically significant at conventional levels.

[14] Households are asked to report on all non-farm self-employment activities which is why the number of enterprises reported in the table is more than 26.3 percent of the sample.

Table 4.1: Characteristics of household enterprises[15]

	Share of HHs with household enterprise, percent	Number household enterprises observed	Household enterprise has license, percent	Household enterprise located in family home, percent	Number of workers in household enterprise, incl. HH members, mean	Number of hired workers in household enterprise, mean
Total 2016	26.3	813	24.0	56.2	2.0	0.5
Province						
Ha Tay	37.3	253	25.3	51.8	2.3	0.8
Lao Cai	20.2	21	4.8	71.4	1.3	0.0
Phu Tho	19.2	90	32.2	55.6	2.3	0.7
Lai Chau	7.6	12	50.0	41.7	1.9	0.0
Dien Bien	61.8	76	2.6	94.7	1.4	0.0
Nghe An	30.0	79	8.9	39.2	1.6	0.2
Quang Nam	22.8	87	36.8	55.2	1.9	0.3
Khanh Hoa	29.9	32	6.3	34.4	2.1	0.5
Dak Lak	13.8	23	34.8	60.9	2.6	0.9
Dak Nong	17.3	28	42.9	78.6	1.9	0.4
Lam Dong	19.7	20	25.0	45.0	2.0	0.4
Long An	21.9	91	29.7	53.8	1.5	0.4
Gender						
Female	20.7	146	15.8	61.6	1.6	0.2
Male	28.0	667	25.8	55.0	2.0	0.5
Food expenditure quintile						
Poorest	15.0	83	7.2	85.5	1.3	0.0
2nd poorest	21.0	124	17.7	65.3	1.6	0.2
Middle	26.8	159	22.0	50.9	1.7	0.2
2nd richest	32.3	209	24.4	49.8	2.0	0.4
Richest	36.3	238	34.0	50.4	2.6	1.1
Ethnicity of HH head						
Kinh	27.6	691	27.1	51.4	2.1	0.6
Non-Kinh	21.2	122	6.6	83.6	1.4	0.0
Total 2014 panel[a]		596	23.7	58.9	2.3	0.7
Total 2016 panel[a]		596	29.5 **	56.2	2.1	0.6

N = 2,669

[a] Based on a balanced panel of 452 households with 596 household enterprises. ***Difference between 2016 and 2014 significant at 1 percent level, ** 5 percent level, * 10 percent level

Table 4.2 presents the share of household income from various sources. On average household enterprise income accounted for 12.3 percent of total household income in 2016. The most important sources of income were waged employment (39.4 percent) and agricultural income (27.7 percent). There is, however, a lot of variation across provinces in the importance of different income sources. For example, in Dien Bien, most income was derived from agricultural activities (57.7 percent) with only 2.6 percent of income coming from household enterprises. In contrast, in Ha Tay, wage employment was most important at 42.8 percent of total income, followed by income from household enterprises at 22.1 percent.

[15] Differences between the results presented in Table 3.1 and in Figure 3.1 and 3.2 are due to the fact that the former are based on the "full sample" of 2012 households, while the latter use the "panel sample", a balanced panel of households based on those included in the 2010 report.

Table 4.2: Diversification of income sources by province (percent)

Share of income from:	Household enterprises	Agriculture	Wage	Other
Total 2016 (N = 2,669)	12.3	27.7	39.4	20.7
Province				
Ha Tay	22.1	14.0	42.8	21.1
Lao Cai	3.7	41.6	42.8	11.9
Phu Tho	10.0	24.2	38.7	27.1
Lai Chau	3.1	57.9	26.8	12.3
Dien Bien	2.6	57.7	20.8	18.9
Nghe An	13.9	17.9	34.8	33.5
Quang Nam	12.3	19.3	47.0	21.5
Khanh Hoa	18.4	11.7	53.6	16.3
Dak Lak	6.6	47.7	29.1	16.7
Dak Nong	5.8	49.0	28.7	16.5
Lam Dong	10.5	54.4	22.1	13.0
Long An	10.1	23.7	49.1	17.1
Total 2014 panel[a]	12.5	30.1	37.6	19.8
Total 2016 panel[a]	12.3	27.7	39.3	20.7
		***	*	

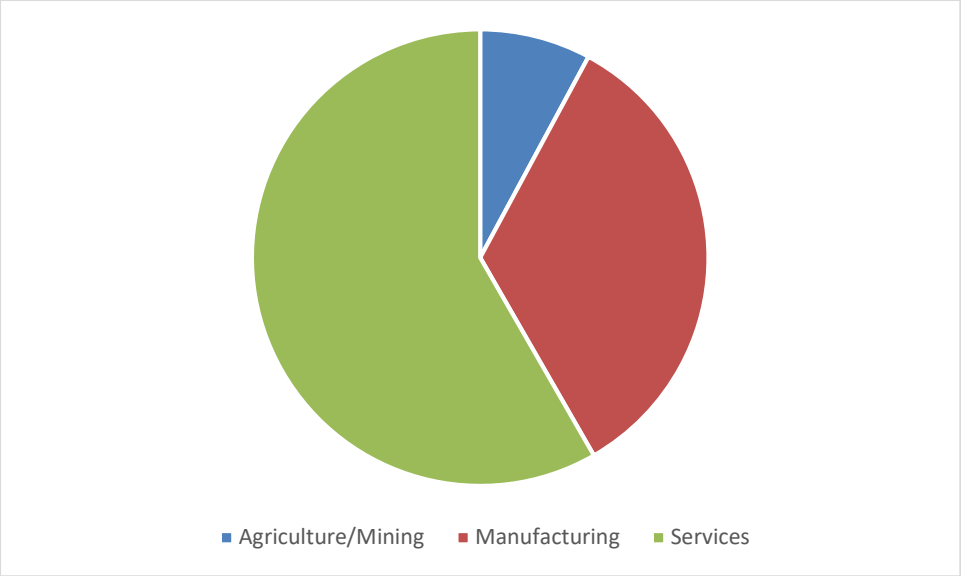
[a] N 2014 and 2016 panel = 2,666 (balanced panel); ***Difference between 2014 and 2016 significant at 1 percent level, ** 5 percent level, * 10 percent level.

Comparing the balanced panel of households between 2014 and 2016 we find a statistically significant decline in the proportion of income coming from agriculture from 30.1 percent to 27.7 percent, and a statistically significant increase in the proportion of income coming from waged employment from 37.6 percent to 39.3 percent. This shows that the main source of income diversification away from agriculture between 2014 and 2016 was into waged employment.[16] This suggests that while household enterprises remain an important source of income for rural households, waged employment is becoming increasingly relevant.

Figure 4.3 presents results on the sectoral distribution of household enterprises. It shows that most micro-enterprises in 2016 were related to the services sector (58.3 percent) while approximately one-third were classified as manufacturing and light processing. The agriculture and mining sectors accounted for only 7.8 percent of the enterprises.

[16] This is consistent with the trend in income diversification between 2008 and 2014 as shown in Kinghan and Newman (2017).

Figure 4.3: Sectoral distribution of household enterprises 2016 (percent)



N = 813

4.4 Investment and performance

In this section, we examine the financing and economic performance of household enterprises. Table 4.3a documents the level of initial investment in the household enterprise and the source of finance used. The average start-up cost of the household enterprises in operation in 2016 was over 75 million VND (approximately 3,304 USD). This average value disguises very large variation across food expenditure quintiles, our proxy for relative wealth: among poor households, the initial investment is only 7 million VND (308 USD), compared with around 144 million VND among the richest (6,343 USD). Similar heterogeneity in initial investment levels is observed across provinces with very low levels in Dien Bien and Lai Cai, in particular, and very high levels of investment in Phu Tho and Dak Nong. Enterprises in male-headed households had more than double the start-up investment than those of male-headed households, while for ethnic minority households the average start-up investment was approximately 5.5 million VND on average (242 USD).

The main source of finance used to start household enterprises was self-finance with almost all households (96.1 per cent) reporting that they used some form of self-finance and 64.5 percent of households reporting that self-finance was their only source of funds. There is, however, considerable heterogeneity across provinces and household characteristics. For example, in Dien Bien only 2.6 percent of households reported having borrowed to finance their enterprise compared with 43.8 percent of household in Kanh Hoa. There is also heterogeneity across food expenditure quintile with poorer households much more reliant on self-finance than credit. Similarly, ethnic minority households rarely borrowed to finance their enterprise. This suggests that poorer households, and ethnic minority households in particular, experience difficulties in accessing loans and other forms

of credit. There is very little discrepancy between male and female-headed households in relation to access to credit. This is not surprising given the enactment of the Gender Equality Law in 2010 which ensured preferential access to credit for women in rural households (Bedi et al., 2017).

Table 4.3a: Household enterprise performance: Investment capital, and sources of financing

	Initial investment ('000 VND), mean	All self-financed, percent	Self-financed and borrowed, percent	All borrowed, percent
Total 2016 (n = 813)	75,223	64.5	27.3	3.9
Province				
Ha Tay	85,431	55.3	34.0	4.3
Lao Cai	14,057	85.7	9.5	4.8
Phu Tho	156,599	56.7	27.8	7.8
Lai Chau	24,208	75.0	25.0	0.0
Dien Bien	1,985	94.7	1.3	1.3
Nghe An	70,118	64.6	31.6	3.8
Quang Nam	57,724	63.2	26.4	2.3
Khanh Hoa	80,500	56.3	43.8	0.0
Dak Lak	21,370	60.9	26.1	8.7
Dak Nong	137,173	67.9	21.4	7.1
Lam Dong	50,250	60.0	35.0	5.0
Long An	66,610	70.3	26.4	2.2
Gender of HH head				
Female	38,883	62.3	25.3	5.5
Male	82,999	64.9	27.7	3.6
Food expenditure quintile				
Poorest	7,816	84.3	7.2	2.4
2nd poorest	33,872	66.9	22.6	4.0
Middle	45,466	64.2	29.6	5.0
2nd richest	68,980	62.7	29.2	3.3
Richest	144,419	58.0	33.6	4.2
Ethnicity of HH head				
Kinh	87,289	59.8	31.4	4.3
Non-Kinh	5,485	91.0	4.1	1.6
Total 2014 panel[a]	67,131	66.9	24.5	6.2
Total 2016 panel[a]	89,028	61.1	30.9	3.7
		**	**	**

[a] Based on a balanced panel of 452 households with 596 household enterprises. ***Difference between 2016 and 2016 significant at 1 percent level, ** 5 percent level, * 10 percent level

Table 4.3b examines the performance of household enterprises in terms of revenues generated and net income. The average net annual income from household enterprises was approximately 74.6 million VND (3,286 USD) which is close to the average initial start-up cost. There is however, considerable variation across provinces and household characteristics. The net returns from household enterprises were significantly lower in Dien Bien (4.5 million VND) and Lao Cai (23.8 million VND) than in all other provinces. The highest average enterprise returns were in Phu Tho (132.5 million VND) and in Ha Tay (92.5 million VND). Male-headed households experienced a much higher net income stream from household enterprises than female-headed households (78 million VND compared with 57 million VND). This is so because revenues were lower and because costs were higher in enterprises in female-headed households. Unsurprisingly, the returns to household enterprises are almost 8 times higher for households in the highest food expenditure quintile compared with those in the poorest quintile. Ethnic minority

households experienced significantly lower returns than Kinh households and operated their enterprises on a much smaller scale both in terms of revenues and cost outlays.[17]

Table 4.3b: Household enterprise performance: Revenue, costs and net income ('000 VND, median)

	Total revenue from HH enterprise	Total costs for HH enterprise activities	Net income from HH enterprise
Total 2016 (n = 813)	289,635	217,878	74,615
Province			
Ha Tay	423,732	332,757	92,590
Lao Cai	49,299	28,495	23,842
PhuTho	408,872	287,061	132,474
Lai Chau	117,663	77,752	43,066
Dien Bien	7,990	5,444	4,555
Nghe An	171,283	119,900	53,332
Quang Nam	273,941	201,359	74,109
Khanh Hoa	377,268	295,590	83,916
Dak Lak	201,915	154,854	48,237
Dak Nong	193,470	129,999	64,671
Lam Dong	199,600	144,131	56,924
Long An	268,349	199,988	71,088
Gender of HH head			
Female	282,753	226,886	57,572
Male	291,142	215,907	78,346
Food expenditure quintile			
Poorest	35,638	20,929	15,988
2nd poorest	136,015	100,524	37,449
Middle	169,969	117,510	55,621
2nd richest	283,931	211,815	74,204
Richest	543,206	420,082	127,475
Ethnicity of HH head			
Kinh	335,491	252,877	85,588
Non-Kinh	29,914	19,648	12,464
Total 2014 panel[a]	323,759	249,307	76,989
Total 2016 panel[a]	369,798	284,506	89,098

[a] Based on a balanced panel of 452 households with 596 household enterprises. Differences between 2016 and 2014 are not statistically significant at the 10 percent level for any enterprise characteristic.

To consider further the potential drivers of enterprise performance Table 4.4 disaggregates enterprise performance by education level of the household head, both general and professional, and links performance to whether the household had access to credit. We find that households that completed upper secondary school invested considerably more initially in their enterprise. They also earned a higher income on net from their enterprises but not considerably more than households that completed lower secondary school. The latter invested almost half the amount of the more educated households initially but earned similar returns. Households with heads that cannot read and write invested very little initially in household enterprises but generated a lot of revenue from these enterprises, even more, on average, than households with heads that completed lower primary school. Their costs, however, were considerably higher resulting in similar total net income levels for both groups of households. A less clear picture emerges when professional education is considered. Households with short-term vocational training earned the highest net income on average while those with a professional high school

[17] We find no statistically significant differences in enterprise performance based on the 2014 and 2016 balanced panel of households.

qualification earned the lowest. This is likely because the latter are potentially more prepared to enter wage employment and so have better opportunities in labour markets and less of a need to start or engage in household enterprises.

Table 4.4: Education of household head, investment, and performance ('000 VND, median)

	Initial investment	Revenue	Costs	Total net Income
Total 2016 (n = 813)	75,223	289,635	217,878	74,615
Highest general education HH head				
Cannot Read or Write	17,576	236,761	198,479	41,508
Completed Lower Primary	31,916	138,512	99,419	41,097
Completed Lower Secondary	62,394	294,750	216,558	80,122
Completed Upper Secondary	111,210	338,325	259,356	83,161
Highest professional education				
No Diploma	52,951	262,216	197,085	68,110
Short Term Vocational	114,396	348,008	254,107	95,511
Long Term Vocational	67,250	379,509	299,729	81,519
Professional high school	193,035	399,309	337,065	69,139
College/University	85,100	228,557	142,740	87,170
Borrowing Status				
No loan	70,951	274,084	204,513	71,475
Has loan	83,517	320,059	244,026	80,759

There are also differences in returns based on whether the household had access to credit or not. Households without a loan invested less and received lower net returns from their household enterprises. Access to credit, however, is likely to be highly correlated with income, education and other household characteristics and so this relationship should not be interpreted as causal.

Investment in household enterprises can also be measured in terms of the amount of time invested by household members in operating the enterprise. Table 4.5 compares the amount and proportion of time invested by household members in 2014 and 2016 using the balanced panel of households. On average the number of days invested in household enterprises was 276 in 2016 accounting for around 51.4 percent of the total labour supply. These numbers are slightly lower than for 2014 but the difference is not statistically significant. There was a statistically significant increase in the number of days that household members reported working in enterprises in Ha Tay and Lai Chau but a very large and statistically significant decline in Lao Cai and Dien Bien. Taken together with the substantial increase in the proportion of households in these provinces that operated an enterprise between 2014 and 2016 (see Figure 3.1), this suggests that the observed increase in the prevalence of household enterprises is at the intensive rather than the extensive margin.

There is a minor difference between male and female headed households in the amount of time spent working in household enterprises, although female-headed households do appear to have spent a larger proportion of their time engaged in enterprise activities. Perhaps unsurprisingly given the analysis thus far, richer households and households of Kinh origin spent more time working in household enterprises. Moreover, the amount and

proportion of time engaged in household enterprise activity declined significantly (statistically) between 2014 and 2016 for the poorest households and for ethnic minority households.

Table 4.5: Days per year working in household enterprises

	Number of days involved in household enterprise, days, 2016	Number of days involved in household enterprise, days, 2014		Share of household enterprise labour supply in total labour supply, 2016, percent	Share of household enterprise labour supply in total labour supply, 2014, percent	
Total	276	290		51.4	53.9	
Province						
Ha Tay	366	322	**	61.8	58.0	
Lao Cai	134	261	**	23.7	62.5	***
PhuTho	260	303		56.3	63.7	
Lai Chau	200	87	**	45.0	18.8	***
Dien Bien	17	57	***	6.1	18.3	***
Nghe An	251	283		50.1	53.6	
Quang Nam	338	323		59.9	57.5	
Khanh Hoa	309	287		66.7	62.7	
Dak Lak	222	278		54.9	59.5	
Dak Nong	289	289		50.3	50.9	
Lam Dong	265	382		57.3	58.1	
Long An	304	339		54.9	50.1	
Gender of HH Head						
Female	283	279		58.4	58.0	
Male	274	293		49.8	52.9	
Food expenditure quintile						
Poorest	107	188	***	33.5	47.5	**
2nd poorest	203	206		53.7	48.0	
Middle	272	246		52.4	53.5	
2nd richest	326	284	**	55.8	53.0	
Richest	347	371		52.9	58.3	*
Ethnicity of HH head						
Kinh	318	314		58.7	57.9	
Non-Kinh	68	107	**	15.4	23.1	**

Based on balanced panel of 2,666 households. ***Difference between 2016 and 2016 significant at 1 percent level, ** 5 percent level, * 10 percent level

4.5 Constraints to small business development

The VARHS survey also questions households with enterprises on the constraints they face in relation to the formation and operation of household enterprises. Households are asked to rank a variety of constraints in terms of difficulty level, such as business registration, compliance with regulations, land purchase/rental, borrowing money, buying inputs, etc. Table 4.6 summarises the findings from this section of the questionnaire.

Most enterprise owners responded, 'Do not know', 'Easy' or 'Neither easy nor difficult' when asked what level of difficulty they faced in relation to a variety of distinct aspects associated with starting and operating a household enterprise. This suggests that for the most part households did not feel very constrained in terms of running their businesses. The issues that were most likely to be reported as posing some difficulties included borrowing money and accessing markets for output (approximately 20 percent of households reported some difficulties in relation to each of these issues).

Table 4.6: Constraints faced by households with enterprises (percent)

Level of difficulty	Very difficult	Difficult	Neither easy nor difficult	Easy	Very easy	Do not know
Register your business	0.1	3.9	19.8	9.0	2.0	65.2
Comply with business regulations	0.0	6.0	26.8	13.8	2.0	51.4
Buy or rent land	0.1	6.3	21.4	13.1	1.3	57.8
Borrow money	2.1	15.1	27.4	10.4	1.4	43.5
Save money in a state or commercial bank	0.3	1.9	20.7	20.8	5.6	50.8
Hire skilled workers	0.3	10.4	19.7	5.4	0.7	63.5
Train employees	0.3	11.3	16.4	5.4	0.4	66.2
Learn about new technologies	2.4	13.1	18.8	6.4	0.4	58.8
Purchase new machinery	2.7	13.6	23.3	10.0	1.6	48.9
Access markets for what you produce	1.6	20.5	32.2	10.7	1.3	33.7
Buy inputs	0.1	8.1	37.4	23.5	3.7	27.1

N= 701. Sample size is lower due to non-response.

In addition to business-specific constraints, Table 4.7 summarises enterprise owners' attitudes towards corruption and infrastructure, two potential constraints to the successful operation of household enterprises. In general, respondents did not perceive corruption and infrastructure as significant barriers to the operation of their household enterprises.

Table 4.7: Assessment of corruption and infrastructure by households with enterprises (percent)

		Assessment of costs imposed by corruption			Assessment of local infrastructure		
	n	Large and Very large	Small	No effect	Good and Very good	Neither good nor bad	Bad and Very bad
Total	701	8.1	30.2	61.6	32.5	62.2	5.3
Province							
Ha Tay	215	12.6	34.4	53.0	38.6	57.7	3.7
Lao Cai	21	4.8	9.5	85.7	0.0	85.7	14.3
Phu Tho	73	13.7	34.3	52.1	16.4	74.0	9.6
Lai Chau	10	0.0	40.0	60.0	0.0	70.0	30.0
Dien Bien	76	11.8	14.5	73.7	22.4	73.7	4.0
Nghe An	67	4.5	23.9	71.6	31.3	61.2	7.5
Quang Nam	75	0.0	20.0	80.0	38.7	58.7	2.7
Khanh Hoa	32	6.3	59.4	34.4	81.3	18.8	0.0
Dak Lak	22	9.1	72.7	18.2	18.2	63.6	18.2
Dak Nong	23	0.0	21.7	78.3	39.1	60.9	0.0
Lam Dong	15	0.0	46.7	53.3	20.0	80.0	0.0
Long An	71	4.2	25.4	70.4	32.4	64.8	2.8
Gender of HH Head							
Female	130	3.9	26.2	70.0	32.3	62.3	5.4
Male	571	9.1	31.2	59.7	32.6	62.2	5.3
Food expenditure quintile							
Poorest	80	3.8	22.5	73.8	16.3	81.3	2.5
2nd poorest	112	8.9	28.6	62.5	22.3	75.0	2.7
Middle	143	9.1	25.9	65.0	30.8	62.2	7.0
2nd richest	173	8.7	30.6	60.7	42.8	54.3	2.9
Richest	193	8.3	37.3	54.4	37.3	53.9	8.8
Ethnicity of HH head							
Kinh	583	8.2	33.3	58.5	35.9	58.8	5.3
Non-Kinh	118	7.6	15.3	77.1	16.1	78.8	5.1

Reduced sample size due to non-response.

There is variability in attitudes across provinces. Over 10 percent of enterprise owners in Ha Tay, Phu Tho and Dien Bien reported that the costs associated with corruption were large or very large. In relation to local infrastructure, 30 percent of enterprise owners in Lai Chau, 18 percent in Dak Lak and 14 percent in Lao Chai reported that local

infrastructure was bad or very bad. These proportions are, however, based on a very small sample of enterprise owners in these provinces, who responded to this question and so should be treated with some caution.

4.6 Summary

Household enterprises are a key component of rural livelihoods in Vietnam. This is particularly the case given the on-going structural transformation process and the transition of workers and resources away from agriculture. While the contribution of household enterprises to incomes in rural Vietnam remains relatively small, these activities absorb significant investments of time and money by rural households.

This Chapter highlights significant heterogeneity across rural households in the levels of investments in and returns to the enterprise activities. The wealth of households, their education level and ethnic status are strong predictors of the level of financial and time resources allocated to household enterprises and the extent of their returns. The chapter also documents considerable heterogeneity across provinces in the prevalence and performance of enterprises. For the most part, the household enterprises operated by VARHS households are micro-enterprises, with very few employees, and most operate on an informal basis from the family home. Their small scale and informal nature suggests that these enterprises are unlikely to drive an expansion in rural formal, or informal, labour demand, but are clearly an important intermediary step in the development process.

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CHAPTER 5 LABOUR AND MIGRATION

5.1 Introduction

The 2009 Vietnamese Census registers a steep increase in migration rates, across all migrant statuses (international, inter-provincial and inter-regional). According to the General Statistics Office (2011), in 2009, about 2.1 per cent of the Vietnamese population were intra-district migrants, around 2.2 per cent were inter-district migrants, while over 4 per cent were inter-provincial migrants. Indeed, comparisons between the 1999 and 2009 Censuses show that inter-regional migration rates display the greatest growth, from 19 per 1,000 in 1999 to 30 per 1,000 in 2009 (General Statistics Office, 2010).

The recent contribution by Narciso (2017) investigates the role of migration as a means of poverty reduction and as a safety valve for households in rural Viet Nam. The analysis provides evidence that migration acts as a shock-coping mechanism, especially related to natural shocks. Narciso (2017) shows how remittance-recipient households respond better to shocks and use remittances to counter-balance the need for formal borrowing. Drawing from the recent 2016 Viet Nam Access to Resources Household Survey (VARHS), this chapter provides further evidence on the characteristics of migrants and sending households. It explores the patterns of migration within Viet Nam and sheds light on the determinants of migration and its likely impact on sending households.

A series of studies have recently analysed the Vietnamese migration phenomenon, in the light of the sustained economic growth and urbanization process. Coxhead et al. (2016) use data from the 2012 Viet Nam Household Living Standards Survey to shed light on migrant characteristics. Overall, they find a positive selection of migrants. Their results are in line with the findings of this chapter: migrants are more likely to be male, better educated and coming from the Kinh ethnic group.

This chapter is organized as follows. Section 5.2 presents the data and explores the reasons for migrating. Section 5.3 presents the evidence on migrant characteristics, while Section 5.4 investigates the features of sending households and the determinants of remittance flows. Section 5.5 concludes.

5.2 Data

The data used in this chapter come from the 2016 VARHS, which provides extensive information on incomes, assets and access to resources of rural households in Viet Nam. A section on migration was added to the survey instrument in 2012 and information on migration behaviour is now available for three rounds of the VARHS (2012, 2014 and 2016). The aim of this chapter is to focus on the evidence from the latest round of VARHS (2016), while providing some comparisons to the previous rounds of the survey.

According to the 2016, about 17 per cent of interviewed households have at least one household member who has migrated over the previous two years. Around 52 per cent of the migrant households have a migrant who has migrated for working reasons. In total, over 660 individuals are reported to be migrants, of which about 41 per cent are expected to permanently return to the household of origin. A further 20 per cent is expected to return, at least temporarily. Based on these responses, it appears that the migration experience is considered temporary or, in the case of temporary returns, a seasonal one.

Table 5.1: Inter-province and intra-province migration

	All migrants (%)	Working migrants (%)
Same province	15.58	8.07
Another province	77.91	81.37
Abroad	6.51	10.56
Abroad (2014 VARHS)	6.67	11.18

Most migration occurs across provinces. About 78 per cent of all migrants move to another province, a share that increases even further for working migrants (81 per cent). A relative smaller percentage of migrants move within the same province (15 and 8 per cent respectively). Working migrants are more likely to migrate internationally compared to the rest of migrants. The share of migrants moving internationally has remained stable with respect to the previous round of the VARHS (2014), as shown in the last row of Table 5.1. Table 5.2 presents the distribution of migrants and working migrants per province. The provinces with the highest percentage of sending households are Dak Nong and Nghe An, followed by Quang Nam and Dak Lak. The second column of Table 5.2 shows the percentage of households with a working migrant. Nghe An presents the highest share of households with a working migrant (16 per cent), followed by Phu Tho and Quang Nam.

Table 5.2: Province of origin

	Households with a migrant (%)	Households with a working migrant (%)
Ha Tay	19.31	9.83
Lao Cai	11.54	4.81
Phu Tho	18.42	13.95
Lai Chau	7.58	3.03
Dien Bien	13.82	7.32
Nghe An	23.66	16.07
Quang Nam	21.58	11.55
Khanh Hoa	11.21	0.93
Dak Lak	21.38	10.69
Dak Nong	24.81	9.02
Lam Dong	18.42	2.63
Long An	11.69	4.92

Where do migrants move to? The two major poles of attraction are Ha Noi and Ho Chi Minh: about 30 per cent of migrants in the sample migrate to Ha Noi, while around 22 per cent move to Ho Chi Minh. This pattern of sustained movement to the main urban cities further reinforces the process of urbanization detailed in Narciso (2017).

Table 5.3: Province of destination

	Observations	%
Ha Noi	189	30.68
Ho Chi Minh	133	21.59
Dak Nong	62	10.06
Dak Lak	27	4.38
Quang Nam	24	3.90

Table 5.4 presents the reasons for migrating, distinguishing between temporary migrants and permanent migrants. According to 2016 VARHS, the main reason for migrating is related to work motives. The second reason is related to education, followed by marriage for family unification and army service. Columns 2 and 3 distinguish between temporary migrants and permanent migrants. Temporary migrants moved away mainly due to work reasons (50 per cent) or education reasons (37 per cent), while permanent migrants migrated mainly for marriage or family unification reasons (44.55 per cent), followed by work reasons (31.82 per cent).

Table 5.4: Reasons for migrating

	All migrants (%)	Temporary migrants (%)	Permanent migrants (%)
Work/Looking for work	48.35	50	31.82
Education	30.93	37.38	3.64
Marriage/Family unification	9.61	2.67	44.55
Army service	3.60	4.61	0.91
Other	7.51	5.34	19.09

5.3 Migrant characteristics

Table 5.5 explores migrant demographic characteristics, distinguishing between all migrants and working migrants, *i.e.* migrants who moved away for work-related reasons. In terms of gender composition, a slight majority is made by male migrants (52.85 per cent). The average age of migration is in the early twenties and the average number of years since moving is about 2. About a third of migrants are married and about 57 per cent of migrants do not have a diploma. About one fifth of migrants are permanent migrants, *i.e.* they will be unlikely to return to their community of origin. The working migrants sample appears to be quite different from the other migrants who left for non-working reasons. On average, a higher proportion of working migrants is male (59 per cent), is more likely to be married and was slightly older at the time of migration. Working migrants are also more educated on average, and a smaller share has no diploma. Indeed, it is likely that working migrants have delayed their migration decision until education is completed, which would link the older age at migration with the education level. This result can be interpreted in terms of a positive migrants' self-selection. We will explore further this issue when analysing the characteristics of sending households. Finally, a smaller share of working migrants is considered permanent, i.e. the migratory experience is more likely to be perceived as a transitory choice.

In terms of relationship to the household head, given the age structure of migrants, it is not surprising that most migrants (over 83 per cent) are children or grandchildren of the household head (6.92 per cent). Only a smaller share is made by household heads or spouses of the household head (6.92 per cent).

Table 5.5: Migrant and working migrants

	All migrants		Working migrants		t-Test of difference
	Mean	SD	Mean	SD	
Male	52.85%	0.50	59.01%	0.49	***
Married	31.83%	0.47	39.75%	0.49	***
Age at migration	23.33	9.90	25.89	8.74	***
No diploma	57.66%	0.49	41.92%	0.49	***
Years since the migrant left	1.89	1.78	1.99	2.16	
Permanent	21.07%	0.41	14.53%	0.35	***

Note: ***significant at 1%

In terms of occupation, Table 5.6 explores the occupation of working migrants at destination. There appears to be a significant dispersion in the type of occupations migrants are employed in. Most migrants are employed as low-skilled labourers or manual labourers (a total of 51.48 per cent). However, a significant share of migrants is employed in top and mid-level occupations (about 28 per cent in total), a result which is consistent with the higher education levels of working migrants.

Table 5.6: Migrant occupation

	%
Army	1.97
Leaders/managers in all fields and levels	2.95
Top-level occupations in all fields	12.46
Mid-level occupations in all fields	12.46
Office staff	6.89
Service and sales staff	2.30
Skilled labourers in agriculture, forestry, and fisheries	0.33
Manual labourers and related occupations	20.33
Machine assembling and operating workers	9.18
Low-skilled labourers	31.15

The migration literature has often emphasized the role of migration networks in providing support to recent migrants. Although the large majority or working migrants found the job through self-seeking, networks of friends and relatives was essential in getting a job for almost 40 per cent of migrants. Indeed, migration networks seem to play even a bigger role than in 2014. The percentage of migrants relying on relatives and friends to find a job is 5 percentage points higher in 2016 compared to 2014.

Table 5.7: Role of migration networks

	%
Self-seeking	44.92
Relative/friend	39.34
Employment service	4.26
Other	11.48
Relative/friend (2014 VARHS)	34.36

The 2016 VARHS survey allows exploring how often migrants are in contact with their family of origin. This type of information is particularly interesting, in the light of the emerging literature investigating the flow of information between migrants and their households of origin (Batista and Narciso, forthcoming; Bryan et al. 2014). Table 5.8 presents the frequency of contacts between migrants and their household of origin.

Table 5.8: Contacts between migrants and household of origin

	Frequency of contacts with the migrant (%)	Frequency of migrant's visits (%)
Once a day	10.21	-
At least once a week	51.65	10.06
At least once a month	25.68	32.88
At least every 3 months	3.30	21.17
Less often/never	9.16	35.89

It appears that migrants are still very much in contact with their household of origin, as shown by the frequency of contacts. About 51 per cent of migrants are in contact with their family of origin at least once a week.[18] The extent of contact between migrants and their families is also shown by the frequency of visits of migrants to the household: about 64 per cent of migrants visit their household of origin at least every three months or more frequently. This table highlights the tightness of the relationship between migrants and their households of origin. It becomes therefore relevant to investigate the extent of transfers between migrants and their households of origin.

Table 5.9 presents the evidence on the frequency of transfers from the household of origin to the migrant, distinguishing between all migrants and working migrants. There appears to be an exchange of transfers between the household and migrants. About 35 per cent of migrants receive transfers from their sending household during the year. These transfers are likely to be used to cover education-related costs, given that education is one of the main motives for leaving the households. This percentage decreases to 5 per cent when we focus on working migrants only. Although relatively small, it is a relevant figure which might highlight the fact that migrants, especially recent migrants, might be finically dependant on their household of origins.

Table 5.9: Transfers from the household to the migrant

	Frequency of transfers from the household to the migrant (%)	Frequency of transfers from the household to the migrant -working migrants only -
Once a month or more frequently	27.48	1.55
Once a quarter	1.80	0.62
Less frequently	5.11	3.73
Never	65.62	94.10

[18] Mobile phone (84.57 per cent) and landline phones (9.10 per cent) are the main contact modes, while the internet plays a less relevant role (2.01per cent).

A large strand of literature analyses the characteristics and impact of remittances.[19] The data in the 2016 VARHS show that about 32 per cent of migrants send remittances. This is a phenomenon that clearly characterizes working migrants, *i.e.* migrants who moved due to work reasons. Over 56 per cent of working migrants send remittances and at least 40 per cent of working migrants send remittances at least once a year. In line with the work by Yang (2011), remittances are found to be sent quite regularly and frequently. Over 20 per cent of working migrants send remittances at least once a month or more frequently.

Table 5.10: Remittances

	Frequency of remittances (%)	Frequency of remittances (%) -working migrants only -
Once a month or more frequently	11.86	21.74
Once a quarter	5.11	9.94
Less frequently	15.61	25.15
Never	67.42	43.17

A recent strand of literature has investigated on the extent in which migrants can control how remittances are used (Ashraf et al., 2015, Batista and Narciso, forthcoming). The 2016 VARHS allows us to explore the main reasons for sending remittances. The survey instrument enquires about the purpose of sending remittances, according to the migrant, and the use of remittances, according to the remittance recipient household. Although affected by some degree of subjectivity, these survey questions allow uncovering a potential mismatch between the intended and actual use of remittances. Column 1 presents the evidence in relation to how households spend remittances. The main purpose of migrants for sending money is to cover daily expenditures, such as daily meals or other consumption items, such as clothing, or covering utility bills. Around 15 per cent of remittances is saved, while most of the rest of remittances is used to cover medical and educational expenses, or towards house renovations. Column 2 of Table 5.11 presents the intended use of remittances, according to migrants. We do not find a substantial difference between intended and actual use, apart from a discrepancy in relation to daily consumption.

Table 5.11: Remittance use

	How households spend remittances (%)	Migrant's purpose for sending remittances (%)
Daily meals and other consumption	55.17	58.02
Savings	15.76	14.15
Medical expenses	5.91	4.72
Educational expenses	4.93	5.19
House	4.89	4.24
Special occasions	3.45	2.83
Other	9.89	10.85

[19] See Yang (2011) for a review of the literature.

5.4 Household characteristics

Are migrants positively selected? The aim of this section is to explore the characteristics of sending households. Table 5.12 presents some evidence to test whether households with a migrant are wealthier than households with no migrant. To do so, we investigate the distribution of sending and non-sending households by expenditure quintile.

A smaller percentage of sending households is in the first quintile, compared to the percentage of households with no migrant (15 and 21 per cent respectively). A much higher share of sending households is in the top food quintile, especially when considering households with a working migrant. Indeed, 40 per cent of households with a working migrant is in the fifth quintile, compared to 17 per cent of households with no migrant. The last row of Table 5.12 displays the share of households in the top food quintile according to the 2014 VARHS. The difference between sending and non-sending households seems to be even more striking if compared to the 2014 data. The results presented in Table 5.12 show a positive correlation between household wealth and migration status. Although we cannot infer the direction of the relationship, the distribution with respect to food quintile seems to suggest that migrants are positively selected.

Table 5.12: Distribution of households by migration status and food expenditure quintile

Food expenditure quintile	Distribution of households with a migrant (%)	Distribution of households with a working migrant (%)	Distribution of households with no migrant (%)
1	14.80	15.26	21.13
2	13.95	14.06	21.31
3	15.86	13.25	20.90
4	21.78	17.27	19.67
5	33.62	40.16	16.99
5 (2014 VARHS)	34.03	35.43	20.61

In line with the work by Narciso (2017), the next table explores the household characteristics by migration status. We find no difference between sending and non-sending households in terms of age and gender of the household head and in relation to household size. In terms of ethnicity, households with a migrant are more likely to be Kinh, a result which is in line with the findings by Coxhead et al. (2016). The last three rows of Table 5.13 explore the difference in terms of income, number of plots and savings. We provide evidence that sending households are more likely to have a higher income and more savings than households with no migrant. The difference is statistically significant at the 1% level. Similarly, sending households have a greater number of plots than households with no migrant. The difference is small, but it is statistically significant. Finally, we do not find any statistically significant difference between sending and non-sending households in terms of exposure to shocks over the previous 24 months.

Table 5.13: Household characteristics by migration status

	Households with a migrant (1)	Households with no migrant (2)	t-Test of difference (1)-(2)
Age of household head	53.25	54.35	
Female household head	21.35%	23.95%	
Household size	4.10	4.09	
Kinh	84.66%	77.87%	***
Net income ('000 VND)	144,065.3	105,593.3	***
Savings ('000 VND)	53,118.56	35,621.99	***
No. of plots	2.67	2.46	***
Shock	31.72%	28.96%	

Note: *significant at 10%; ** significant at 5%; ***significant at 1%.

As discussed in Section 5.2, migrants may move for different purposes, *e.g.* to pursue further education, for family reasons or for work-related motives. Table 5.14 further investigates household characteristics by migration status, focusing on working migrants. We do not find any difference between sending and non-sending households in terms of age and gender of the household head, household size, ethnicity and income. Some difference emerges in relation to savings and land ownership. Sending households have lower savings than non-sending households. We also find a statistically significant difference between sending and non-sending households in relation to the number of plots. Households with a working migrant are more likely to have a slightly larger number of plots. Finally, we do not find any statistically significant difference between sending and non-sending households in terms of exposure to shocks.

Table 5.14: Household characteristics by migration status – working migrants

	Households with a working migrant (1)	Households with no working migrant (2)	t-Test of difference (1)-(2)
Age of household head	54	52.42	
Female household head	20.48%	22.32	
Household size	4.10	4.10	
Kinh	85.6%	83.62%	
Net income ('000 VND)	138,788.8	149,930.7	
Savings ('000 VND)	32,109.24	76,472.68	***
Nr. of plots	2.82	2.51	**
Shock	34.80%	28.32%	

Note: *significant at 10%; ** significant at 5%; ***significant at 1%.

As discussed in Section 5.3, it is crucial to understand the flow of transfers and remittances between migrants and their households of origin. About 36 per cent of sending households receive remittances. This is an increase with respect to the previous round of VARHS, which shows that about 30 per cent of sending households received remittances. Table 5.15 explores household characteristics, distinguishing between remittance-recipient households and no remittance recipient households. We restrict the analysis to sending households only. We find a few statistically significant differences between the two groups. Remittance-recipient households tend to have an older household head. Also, they are more likely to have female household head and a smaller household size. We do not find any statistically significant difference in terms of ethnicity or income level. However,

remittance-recipient households appear to have a lower level of savings than non-remittance-recipient households.

Narciso (2017) and Gröger and Zylberberg (2016) investigate the relationship between remittances flow and shock-copying mechanisms in Viet Nam. The last row of Table 5.15 sheds light on the correlation between exposure to shocks and remittance behaviour. It appears that remittance-recipient households are more likely to have experienced a shock in the 24 months preceding the VARHS survey. The difference is noteworthy in magnitude and in terms of statistical significance. This finding highlights the potential role of remittances as a copying mechanism in the presence of adverse shocks.

Table 5.15: Remittance recipient households

	Remittance recipient households (1)	No remittance recipient households (2)	t-Test of difference (1)-(2)
Age of household head	55.72	51.84	***
Female household head	25.58%	18.94%	*
Household size	3.95	4.19	*
Kinh	82.18%	86.09%	
Net income ('000 VND)	133,084.5	150,340	
Savings	30,674.42	65,943.79	**
Nr. of plots	2.89	2.55	**
Shock	37.93%	28.15%	**

Note: *significant at 10%; ** significant at 5%; ***significant at 1%.

5.5 Summary

This chapter provided an overview of the characteristics of sending households based on the latest round of the Viet Nam Access to Resources Household Survey, conducted in 2016. In the presence of a sustained economic growth in Viet Nam and a constant process of urbanization, it is of outmost importance to understand the determinants of migration, the characteristics of the migrant population and the features of sending households. The largest movement of individuals occurs across provinces, with Ha Noi and Ho Chi Minh provinces acting as catalysts for migrants. About 18 per cent of surveyed households have at least one migrant, a result in line with the findings by Narciso (2017) based on the 2014 VARHS. The analysis focused on the distinction between different motives of migration, highlighting the characteristics of working migrants and sending households. Migrants are more likely to be male, young and coming from wealthier families, as measure by food consumption. Working migrants are more likely to be married and better educated (i.e. a smaller percentage has no diploma). Contacts between migrants and their households of origin are frequent, with the clear majority of migrants being in contact at least once a month with their sending household. This chapter also investigates the extent of transfers from sending households to migrants and vice-versa and uncovers a quite relevant flow between the two parties. Remittance recipient households are more likely to be headed by a female and by an older household head. There is a negative relationship between the level of savings and remittances, which highlights how remittance recipient households

might be more vulnerable than no remittance recipient households. Finally, in line with the findings by Narciso (2017) and Gröger and Zylberberg (2016), remittances seem to be used as part of a copying mechanism in presence of negative shocks. Given the extensive movements within Viet Nam, this study contributes to the understanding of the role of migration as a means of poverty reduction and risk-copying mechanism.

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CHAPTER 6 CREDIT

6.1 Introduction

Most developing countries still have gaps in their financial markets, including in their credit markets (Banerjee and Duflo, 2007). For rural households, particularly those dependent on agriculture, these gaps can have important implications for households' investment choices and for coping with income shocks. This gap often acts as an important constraint to households, especially for poorer and more vulnerable households. Addressing this constraint can have implications at both the household and at the national level (Beck et al, 2004; 2007). In order to address this constraint though there is a need for an increased understanding on access to credit products, including to formal products.

This paper analyses credit access for rural household in Vietnam from the 2016 Vietnamese Access to Resources Household Survey (VARHS). In order to get a clearer understanding on credit access, it is important to have a more detailed understanding on what the household characteristics are of those who hold credit, what type of credit these households hold and how they use this credit. From identifying any emerging trends, we can then map gaps in credit access. In order to do this, this chapter will first analyse the 2016 cross-sectional VARHS dataset and then will complement this with analysis from the 2014 to 2016 balanced panel VARHS dataset.

Overall, credit access since 2014 has decreased, there are a fewer number of households with loans. At the same time though, the size of loans has increased since 2014. In regards to key trends, from the data we see an increase in the percent of households from the poorest income quintiles with formal credit and a decrease in the number of households with loans whose head of household can not read or write. From analysing the loan characteristics, we see that the two main sources of credit are from State banks, VBSP and VBARD, followed by credit from family or friends. In addition, while a significant proportion of households ask for credit for farm related activities, less than half of these households use the credit for farm related activities.

6.2 Descriptive Statistics from the VARHS 2016 Data

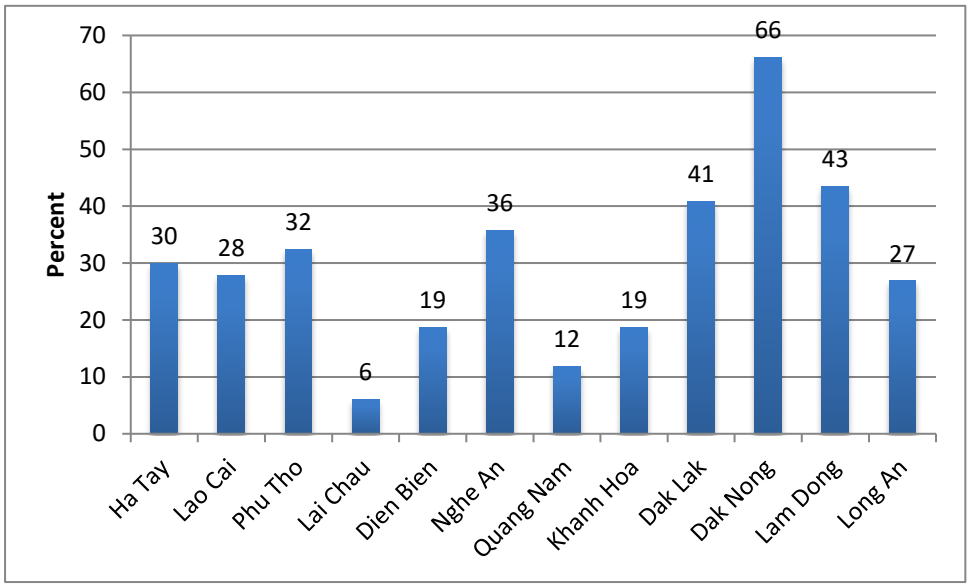
In the first part of this analysis we focus on the 2016 VARHS data and analyse credit access by household variables and then by the features of the loan.

Where are loan holders located?

In this section we look at simple summary statistics to better understand what characteristics may describe households who hold a loan and those that do not. Location, age, ethnicity, education and union membership are a few of the differenciating characteristics between households that have credit and those that do not.

In looking at credit access across the Provinces, from Figure 6.1 what stands out are the differences between the percent of households who hold credit between Provinces. Certain provinces have a much higher percent of households with a loan. For instance in Dak Nong 66 percent of the surveyed households had least one loan and in Lam Dong 43 percent of households had a loan. On the other hand Lai Chau and Quang Nam had a much lower percent of households with loans, ranging from 6 to 12 percent.

Figure 6.1: Loan Access by Province



N = 2,669

It is also important to put this into perspective with the absolute number of loan holders per Province. For instance in Ha Tay a total of 173 households had loans, while in Lam Dong a total of 33 households had loans. Yet given that more households are surveyed in Ha Tay than Lam Dong, the loan holders account for a higher percent of households in Lam Dong.

Yet, at the same time there is a need for further analysis in understanding what may be driving this disparity in loan access between Provinces. In addition, it is key to understand whether this disparity is demand or supply driven. We will touch on this issue again in the comparison of the 2014 and 2016 VARHS data.

Loan usage by household characteristics

Next, we turn to analysing the characteristics of households that hold these loans and whether they differ significantly from the sample mean. From Table 6.1, based on the 2016 VARHS survey data, one can see that 28 percent of households had at least one loan. On the other hand, over 71 percent had no loan. If we compare household characteristics, across a number of factors we see that there is little difference between those with loans and those without. For example the average household size for those with a loan was 4.4

members, the average household size for those with out loans and for the whole sample were 4.

Table 6.1: Loan usage by household characteristics

	No Credit	Has a loan	Total Sample
Total Sample (percent)	71.7	28.3	100
Total Sample (observations)	1,913	768	2,669
Household Characteristics			
Mean Income ('000 VND)	107,351	124,935	112,411
Household size	4	4.4	4.1
Active Household members	2.5	2.8	2.6
Household head demographics			
Male	75.1	80	76.51
Married	76.6	84.3	78.8
Age of Household Head	55.7	50.2	54
Education of Household Head			
Cannot Read And Write	8	4.0	6.8
Can Read And Write but no School	2.60	2.1	2.4
Completed Lower Primary	17.7	11.4	16
Completed Lower Secondary	44.4	52.0	46.6
Completed Upper Secondary	27.3	30.5	28.2
Total Income Quintiles			
Poorest	21.6	15.1	20.0
Second Poorest	20.5	19.3	20.0
Middle Income	18.8	24.3	20.0
Second Richest	20.1	19.6	20.0
Richest	18.9	21.7	20.0
Union Membership			
Women's Union	50.8	65.6	55.1
Farmer's Union	37.8	47.4	40.6
Veteran's Union	14.2	15.3	14.5
Ethnicity			
Non-Kinh	20.6	21.3	20.8
Kinh	79.4	78.6	79.2
Experienced a Shock			
Natural Disaster	40	35.0	38.2
Economic	38.9	50.0	42.3
Idiosyncratic	41.6	37.0	40.0

Age is a demographic characteristic where there is a difference between the groups. Households with loans have a household head who is younger. The average household head age for those with loans was 50. On the other hand the mean age for those without loans was just over 55. The difference in age between households with loans from the sample mean is statistically different at the 1 percent level.

If we look at credit access by education attainment of the household head, we see an interesting division. For households with a head who has a lower primary or lower educational attainment, their loan access is below their sample proportion. On the other hand for households with a head with an education of lower secondary or above, their loan access percent is higher than their sample proportion.

If we look at loan access by income quintiles, the percent with a loan by income quintile is relatively inline with their sample proportion. Though the poorest income quintile has a lower percent of loan access, while the middle and highest income quintile has a slightly higher percent of loan access compared to their sample proportion.

One interesting characteristic of households who hold loans is that they are slightly more likely to have some form of union membership. For instance, over 65 percent of the households with loans also have membership to the women's union. This is higher than the sample proportion of households with membership to the women's union. Similarly for the other two unions, the farmer's and the Veteran's, a higher proportion of households with loans have union membership versus households without loans. This difference in means between households with loans and those without loans by union membership is statistically significant at the 1 percent level for the women's and farmers unions.

Another interesting angle for understanding credit access is looking at the ethnicity of households holding loans. The main ethnicity in Vietnam is Kinh. This is reflected in the survey data, with over 79 percent of all respondents being Kinh. All other ethnic groups make up the remaining 20 percent of the survey. Studying credit access by ethnicity is important because previous research has found that minority groups tend to have less access to credit and for those who have credit, the size of loan tends to be smaller *(*Luan, et al., 2015). From the VAHRS data though, the summary statistics seem to suggest that at 22 percent, a slightly higher percent of ethnic households have a loan than their sample proportion. Given the findings of prior research, it would be important to further analyse credit access by ethnicity and see if this has changed over time.

If we just look at the amount received for the most important loan though, what we see is that the average size of this loan for non-Kinh households is much smaller. The average loan for non-Kinh households was VND 88,700,000 the average loan size for Kinh households was VND 42,900,000.

The final household characteristic we look at in this section is the household's exposure to some form of shock. We create three categories of shocks, a natural disaster like a flood or drought, an economic shock, and an idiosyncratic shock, such as a crop failure. One would expect that households who experienced a shock are more likely to have a loan to help manage the impact of the shock. When we look at the data though, we see some but no consistent deviation from the sample proportions

Types of loans held by households

In addition to understanding the profile of households who hold a loan, it is also important to look at the profile of the loans that these households hold. As revealed in Table 6.2, of the 768 households who held a loan, 144 of them had a second loan, while an additional 34 had a third loan. If we look at the main loan, the average size of the loan amount was VND 78,900,000. The size of this loan was bigger than the amounts received for the second, VND 62,800,000 or the third loan, VND 54,500,000.

Table 6.2: Loan Amount over time, by source and usage

	Main Loan	Second Loan	Third Loan
Number of households with loans	768	144	34
% with a Loan	28.7	5.4	1.3
Loan amount applied for	80,500,000	63,100,000	55,100,000
Loan amount received	78,900,000	62,800,000	54,500,000
Difference between applied and received	1,577,474	262,069	647,058
Source of Loan - % from:			
VBSP	26.4	13.7	2.9
VBARD	36.3	14.5	17.7
Informal	20	53.1	70.6
- Friends and family	14.1	26.2	35.3
- Friends and family	0.4	2.1	2.9
- Friends and family	2.6	11.7	5.9
Other sources	17.5	18.6	8.8

Note: Calculations based on individual loan data. Informal includes: Private traders, moneylenders, group schemes and friends and family. Other sources include credit funds, unions, private banks and everything else not included in the three main categories above. For the main loan the total observations are 768 households, for the second loan 144 households and for the third loan 34 households.

An interesting question here is whether households with more than one loan are constrained. The largest difference between the loan amount applied for and received is for the main loan, VND 1,577,474. For the two remaining loans the difference is between VND 262,069 to VND 647,058. It would be important to look at whether households with additional loans were constrained in the amount received by their first loan. Understanding this constraint will be important in tackling credit access.

Another dimension to the loan profile is the source of the loan. For the main loan, the two main sources for loans in rural Vietnam are formal State sources, VBARD and VBSP. Combined these two count for over 62 percent of all the loans. Informal and other sources, including private banks and credit unions, account for a smaller share of household loans at 37.5 percent. From the informal sources, family and friends are the main loan source at 14.

Once households have more than one loan, the main source for additional loans is informal. For example, informal sources account for 53 percent of all second loans and over 70 of all third loans. The largest source of funding within this remains family and friends. These figures suggest that outside of state owned sources, households predominantly turn to family and friends when they need credit.

What are these loans used for?

Understanding what households use credit for gives critical insight to what their needs are. In addition, given that the VARHS survey asks households what they requested credit for;

it gives an opportunity to compare the difference between actual and stated usage of loans. Table 6.3 presents a simple comparison between what stated and actual purpose of the loans. Two gaps emerge from this simple comparison; the first is the gap for farm related activities and the second is for consumption.

Table 6.3: State versus actual use of loans, by loan source, VARHS 2016

	Stated Use (%)	Actual Use (%)
Used on farm	54.8	27.8
Non-farm activities	12.4	9.4
Other investment	19.1	22.5
Consumption	12.3	20.1
Breakdown by source:		
VBSP		
Used on farm	16.8	7.3
Non-farm activities	1.8	1.2
Other investment	5	6.2
Consumption	2.6	5.9
VBARD		
Used on farm	22.8	10.8
Non-farm activities	6.1	4.3
Other investment	4.8	7.0
Consumption	1.9	6.1
Informal		
Used on farm	6.3	4.8
Non-farm activities	2.7	2.6
Other investment	5.1	4.7
Consumption	5	5.2
Other		
Used on farm	9.7	5.3
Non-farm activities	2.3	2.1
Other investment	4.4	5.0
Consumption	2.2	2.3

Note: Calculations based on the main/most important loan. data. This includes a sample size of 768 main loans. Farm and non-farm activities are stated as is. Consumption includes: replaying other loans, paying for weddings and funerals, health expenditure, and general consumption. Investment includes: building/buying house, buying land, buying other assets and investment in education. We breakdown the total percent of stated and actual use by each credit source.

In their request for loans, over 54 percent of households stated they were going to use the loan for farm related activities. This is understandable given that these households are rural. VBARD gave the most loans for this purpose, accounting for over 22 percent of households who stated farm related usage. Regardless of source though, this was the most frequently cited reason for obtaining credit.

Yet, when we analyse what households actually used these loans for, half of the households did not use these loans for farm related activities. Only 27 percent of

households actually used these loans as stated for farm related activities. Of these households, 10 percent had loans from VBARD. This is less than half of the 22 percent with VBARD loans who stated they would use these loans for farm related activities.

On the flip side only 12 percent of households with loans stated they needed these loans for consumption purposes. Yet, when asked how they actually used these loans, over 20 percent said they used them for consumption purposes. If one looks at the VBSP and VBARD loans, only half the households who used these loans for consumption purposes actually asked for these loans for consumption.

This difference between what a loan was requested for and what it was actually used for could reflect what households feel they will get loans for. An interesting angle for further analysis would be to see whether this reflects actually lending preferences from credit sources.

Loan conditions

In accessing credit, especially formal credit, a general requirement is some form of collateral and/or a guarantor. From Table 6.4 we see that only 44 percent of households with loans needed collateral. On the other hand, over 61 percent of households needed a guarantor for their loan. Households seem to either need to provide collateral or a guarantor to access the loan.

Table 6.4: Collateral and Guarantor needed for credit access (% of households with loans)

	Needed Collateral	Needed Guarantor
Total	**44.5**	**61.1**
VBSP	0.0	28.0
VBARD	34.4	3.1
Informal	0.9	19.3
Other	9.6	9.8

N = 768

The reason for the high guarantor figures seen in credit access is due to the loan conditions of the VBSP. While VBSP is one of the main formal sources of credit, it does not have any collateral requirements. On the flip side, it does have guarantor requirements, where the person accessing the loan must belong to and be recommended by a credit and savings group (Tri, 2014; Seward, 2004). If we look by credit sources, we see that none of the households with a VBSP loan needed to give any form of collateral but they did need a guarantor for the loan. Informal loans work on a similar basis, where loan recipients do not need collateral but do need a guarantor.

The collateral figure seems to be linked to VBARD. Over 34 percent of households who needed to provide collateral for their loans had loans from VBARD. While these VBARD recipients needed to provide collateral, only a small number of households needed a

guarantor for a VBARD loan. On the other hand, households with loans from other sources need both collateral and a guarantor.

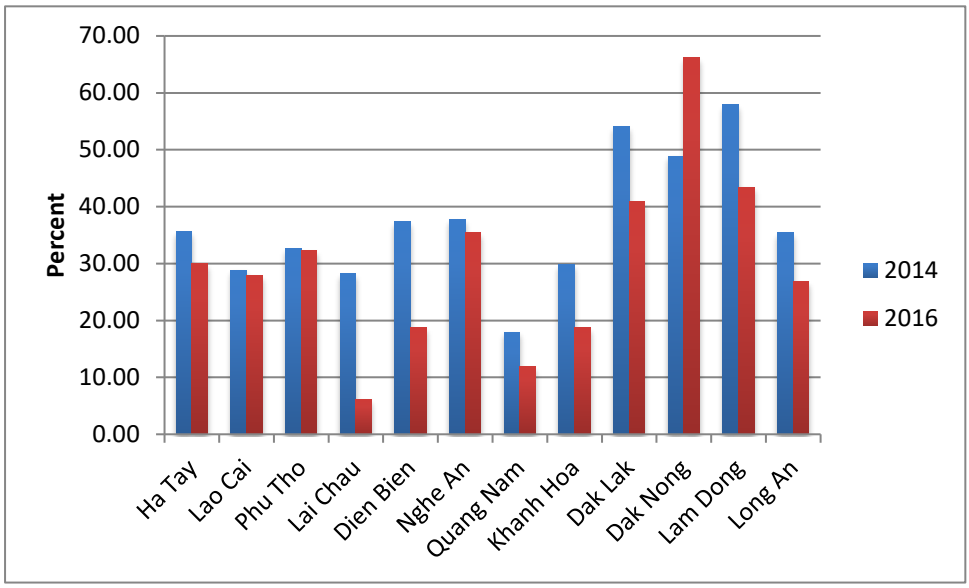
6.3 Descriptive Statistics from the VARHS 2014 - 2016 Panel Data

In the next part of our analysis we turn to the 2014 – 2016 panel dataset to identify any changing trends in credit access over time. Similar to the previous section, we first analyse loan access by household characteristics and then by loan characteristics. In line with the cross-sectional analysis, we see the percent of households with loans who have union membership are much higher than their sample proportion. We also see that the percent of non-Kinh households who access loans are still above their sample proportion. On the other hand we see a decrease by households with a household head who cannot read or write. One factor that emerges from this analysis but did not from the cross-sectional analysis is an increase in credit access by the poorest quintile.

Where are loan holders located?

When we relook at which provinces loan holders are located in for the panel of households in Figure 6.2, we see that overall there has been a decrease in the total percent of households with loans across most areas, with the exception of Dak Nong that saw an increase. Some areas though saw a higher decrease in the number of households with loans. For instance Lam Dong had 58 percent of households with loans in 2014 but this was down to 43 percent by 2016. On the other hand, others managed to maintain the level of credit access. The percent of loan holders in Lao Cai went from 28.9 percent of households with loans in 2014 to 27.9 percent of households with loans in 2016.

Figure 6.2: Loan Access by Province (2014-2016)



N = 2,666 observations from VARHS 2014 and VARHS 2016

Even with this decrease, the three Provinces with the highest percent of households holding loans remained the same. For instance in 2014 Dak Lak, Dak Nong and Lam Dong had the highest percent of households with loans. In 2016 this three provinces still had the highest percent of households with loans.

As suggested previously, it would be important in any follow-up analysis to look at why there is such a varied level of credit access across these provinces. Though given that some areas had quite a change in the percent of loan access between 2014 and 2016 this would suggest that there are other supply or demand constraints that maybe driving these differences. We will explore some of this through gaining a better understanding on household characteristics related to loan access.

Understanding the formality and loan usage by household characteristics

In Table 6.5 we compare the characteristics of households with no credit, to those with formal and informal credit, as well as to the sample proportions. Overall there is a decrease in the total percent of households with credit. Interestingly, this decrease is coming from the percent of households with informal loans, versus formal loans. Further analysis is needed on whether households are more credit constrained in 2016 than they were in 2014.

On the more specific characteristics, in 2016 those with both formal and informal credit had a higher mean income than the mean income for the sample proportion. This was also the case for formal credit in 2014.

If we look at the household head profile, in the previous section the one factor that stood out was that households with credit had a household head younger than the mean sample age. When we compare the 2016 data to the 2014 we see that this age gap still holds. In 2014 and 2016, households with both formal and informal credit had a household head who was younger.

If we next turn to education we see an interesting shift from 2014 to 2016 for households that have a head who is unable to read or write. In 2016 these households are less likely to have formal credit than they were in 2014. In 2014 households who had a head who was unable to read or write accounted for 9.8 percent of all households with formal credit. In 2016 they made up just 4.5 percent of households with formal loans. There is also a decrease in informal credit for this education category. It will be important to get a better understanding of what is driving this decrease.

On the other hand between 2014 and 2016 credit access for households with heads who had completed lower secondary saw an increase in formal credit access, but a decrease in informal credit access. While those with upper secondary saw an increase in access to both types of credit. This would suggest that access to households with lower levels of education

is not changing and if anything the gap may be increasing between them and those with higher levels of education.

The comparison between 2014 and 2016 income quintile data also reflects a shift in loan access for the poorest income quintile. In 2014, this quintile accounted for 14.9 percent all households with a formal loan, while by 2016 it accounted for 16.7 percent of the households with a formal loan. This is inline with their sample proportion and reflects increased access for poor households.

Union membership seems to be particularly important for formal loan access both in 2014 and 2016. This makes sense if we understand the requirements for accessing loans through sources like VBSP, where individuals needs to be part of a group and where their loan applications need to be recommended by the group. Households with union membership have higher loan access than their sample proportion.

The final point of interest is loan access for non-Kinh households in 2014 and 2016. In 2014 and 2016 the percent of non-Kinh households with a formal loan was greater than their sample proportion of just over 20 percent. Maintaining this access is important for non-Kinh households.

Table 6.5: Household Characteristics by Loan Usage, 2014 – 2016 VARHS Data

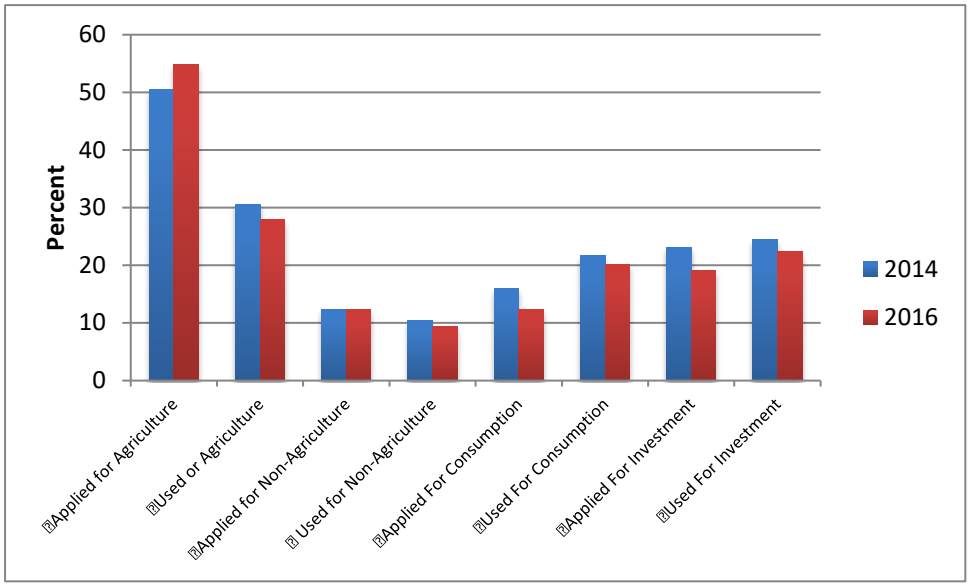
	2014 Full sample	2016 Full sample	2014 No Credit	2016 No Credit	2014 Formal Loans	2016 Formal Loans	2014 Informal Loans	2016 Informal Loans
Total Sample (Percent)	100	100	65.3	71.5	20.1	20.0	13.9	8.3
Total Sample (Observations)	2,666	2,666	1,735	1,899	560	545	371	222
Household Characteristics								
Mean Income ('000 VND)	100,132	112,433	95,244	107,337	117,521	128,087	98,411	118,871
Household size	4.2	4.1	4	4	4.7	4.4	4.4	4.3
Active Household members	2.7	2.6	2.5	2.5	3.2	2.8	2.8	2.8
Household head demographics								
Male	77.4	76.6	75.2	75	83.6	81.6	77.6	77.9
Married	80.5	78.8	78.8	76.6	86.4	85.5	80	82
Age	52.6	54.2	54.2	55.7	49.5	51	50	49.1
Completed Education of Household Head								
Cannot Read And Write	8.7	6.8	8.7	8	9.8	4.5	6.7	2.3
Read And Write	2.7	2.4	3	2.6	1.9	2	2.16	2.7
Lower Primary	18.2	15.9	19.6	17.8	16	11.3	15.4	12.2
Lower Secondary	46.5	46.6	44.1	44.4	47.2	53	56.1	50.5
Upper Secondary	23.7	28.2	24.2	27.2	25	29.5	19.6	32.4
Total Income Quintiles								
Poorest	16.2	20	17.3	21.6	14.9	16.5	13.2	14.4
2nd Poorest	18.3	20	18.2	20.5	18.8	18.4	18.6	19
Middle Income	21.6	20	22	19	20.3	22	21.3	26.1
2nd Richest	22.4	20	22	20.1	22.3	19.4	23.7	20.3
Richest	21.3	20	20.3	18.8	23.8	23.7	23.2	20.3
Union Membership								
Women's	60	55	57	50.8	63	64	69.8	69
Farmer's	41	40.6	37.4	38	52	49	38.5	43
Veteran's	16	14.5	15.3	14.2	17.1	16	14.8	14.4
Ethnicity								
Non-Kinh	20.5	20.8	18.4	20.6	30	25	16.7	12.2
Kinh	79.5	79.2	81.6	79.4	70	7	83.3	87.8

Note: Calculations are based on the main/most important loan data. Formal loans include any loans from VBSP, VBARD, Other State Bank or Private Bank. Informal loans are any loans from groups, private traders, moneylenders, group schemes and family/friends.

How loans are used

This section also looks at whether there have been any changes on what households stated they would use the loans for and how they actually used the loans. We compare the 2014 to the 2016 data in Figure 6.3 and show that the main story is in line with the previous discussion. Most loan applicants' state that they need the loan for farm related purposes, yet only half of these households use these loans for farm related activities. While in the other direction, a larger percent of households use loans for consumption reasons than the percent that applied.

Figure 6.3: Stated vs. Actual use of loan (2014-2016)



N = 931 loans for 2014 and N = 767 loans for 2016.

Understanding household needs and enabling access to credit to address these needs is important. What the data reflects is that what households apply for is not necessarily what they use the credit for.

Details on loans

In addition to understanding the characteristics of the households with credit, it is also important to look at whether there were any changes in the loan size and its proportion to the household income.

From Table 6.6 we see that the overall size of the loan has increased since 2014. The only loan size that has not is loans from other sources (i.e. not from VBSP, VBARD and informal sources). In line with this loan increase, the ratio of loan size to income income has also increased. Most households take out formal loans that have a one to one ratio with their income. Informal loans on the other hand are well under this ratio.

Table 6.6: Loan size, amount still owed and ratio of income

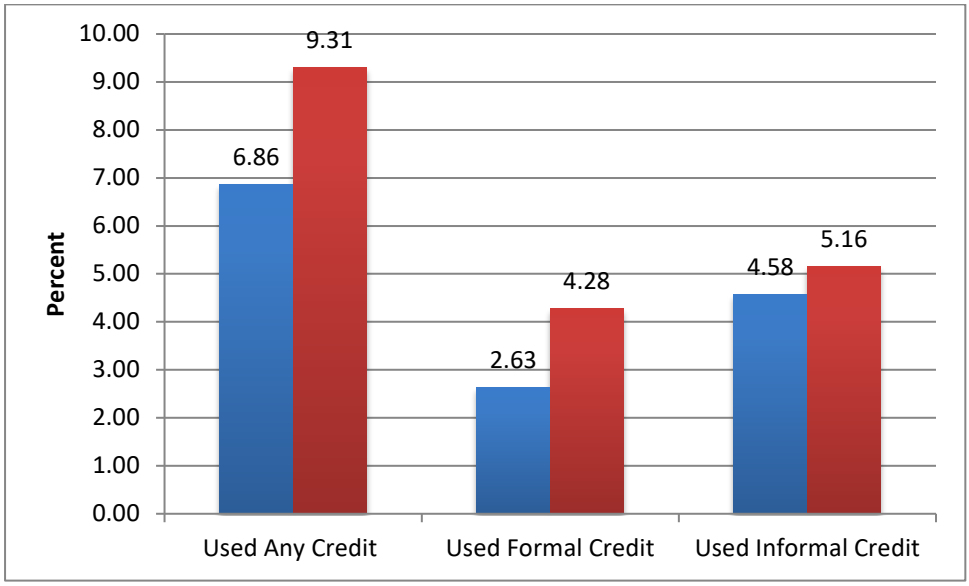
	2014	2016
Loan amount obtained	55,700,000	78,900,000
Loan amount still owed	42,300,000	65,400,000
Ratio of loan/income	0.6	0.9
Breakdown by source		
VBSP		
Loan amount obtained	22,300,000	38,500,000
Loan amount still owed	19,600,000	34,400,000
Ratio of loan/income	0.6	1.2
VBARD		
Loan amount obtained	83,900,000	106,000,000
Loan amount still owed	54,400,000	89,100,000
Ratio of loan/income	0.8	1
Informal		
Loan amount obtained	31,800,000	53,700,000
Loan amount still owed	24,500,000	42,100,000
Ratio of loan/income	0.4	0.5
Other		
Loan amount obtained	112,000,000	112,000,000
Loan amount still owed	95,300,000	89,300,000
Ratio of loan/income	0.7	0.7

Note: Calculations based on the main/most important loan data. All amounts are in 2016 prices. N = 931 loans used for 2014 and N = 767 loans for 2016.

Use of Credit as Coping Mechanism

This short section looks at whether households use credit to cope with an income shock faced by the household. This is illustrated in Figure 6.4.

Figure 6.4: Use of credit as a coping mechanism (2014-2016)



N = 874 in 2014 and N = 795 in 2016.

While only a small percent of households use credit as a coping mechanism in the face of an income shock, this has increased between 2014 and 2016. In 2014 only 7 percent used credit to cope with a shock faced by the household. By 2016 this has increased to 9 percent. Interestingly, this increase is mostly driven by the use of formal versus informal credit.

6.4 Conclusion and policy recomendations

In this chapter we analysed credit access for rural households across Vietnam using the VARHS 2014 and 2016 dataset. We first looked at access for the 2016 cross-sectional data set, analysing the location and household level characteristics of loan holders. We complemented this with analysis on the loans and how they were used. As a second part of our analysis we used a balanced panel from the 2014 and 2016 VARHS datasets. We carried out a similar type of analysis to the cross-sectional study, but incorporated the time element. From this simple analysis some key points emerged.

Credit access is much more prevalent in certain Provinces. While most Provinces have seen a decrease in the number of households with loans, a few Provinces have maintained the level of loan access or increased it between 2014 and 2016. It will be important to see what if anything is driving this shift in loan access between these Provinces, particularly those who have seen a big decrease in credit access.

In the 2016 cross-sectional analysis, the proportion of households with loans who had a household head who was unable to read or write was lower than their sample proportion. When compared to the 2014 data, this point is further emphasised, as there was a decrease in credit access for this type of household between 2014 and 2016. Understanding what is driving this decrease can help further facilitate credit to such households.

While the initial analysis from the 2016 cross-sectional data suggests that access to credit along income quintiles is inline with sample proportions, the analysis based on the panel dataset a different story. The poorest income quintile has seen an increase in credit access since 2014, though this access is still below their sample proportion. Given the importance of credit access for poor households, this change is positive but in order to sustain it, understanding what enabled this change is important.

Another striking point from this analysis is access to loans by non-Kinh households. In both 2014 and 2016, the data reflect that non-Kinh household have a higher level of access to formal credit than their sample proportion. Again, there is a need to understand what may have facilitated this credit access.

Now turning to loan details, while most households only had one loan, a number had a second loan and a third loan. The two main sources of the primary loans are VBSP and

VBARD. The mandate of these two institutions is reflected in the conditions of the loan. More specifically, in 2016 most households with VBSP loans didn't need collateral, but did need a guarantor, which was the opposite for VBARD. The conditions for informal loans are similar to VBSP loans.

Across the 2014 and 2016 data, there is a gap between what households apply for and what they actually use the credit for. While most households requested credit on the basis of farm related activities, less than half of these households used it for such activities. On the other hand more households were likely to use credit for consumption related activities than the numbers who applied. This gap in usage has been consistent over the two rounds of data.

Overall though access to credit has decreased since 2014, even if the average size of loans has increased. What is interesting here is that this decrease is driven by the informal versus formal loans. The percent of households with formal credit has remained constant and has not covered the gap created by the decrease in informal loans. Further analysis is need on what is leading to this decrease in informal credit access and if as a result households are more credit constrained.

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CHAPTER 7 RISK, SAVING AND INSURANCE

7.1 Introduction

The exposure to idiosyncratic and co-variate risks is one of the fundamental problems of developing countries and Vietnam is no different. According to the Vietnam Development Report 2016, agriculture sector of the country is progressing significantly, making it one of the world's leading exporters of agricultural and aqua-cultural products. However, at the same time, there is a major concern about the low growth rates due to declining farm profits, under-employment of labour and poor food safety. Additionally, the vulnerability and exposure of Vietnamese households to income and consumption shocks is a critical issue that needs immediate attention. The existing evidence from Hasegawa (2010) shows that about one-third of households in Vietnam report income and consumption shock. This has continued ever since and the previous reports on Vietnam Access to Resource Household Surveys (VARHS) provide substantial evidence on the same.

In this version of VARHS chapter, we look at diverse sources of income shocks and the ex-post risk-coping mechanisms; primarily savings and insurance, adopted by the households to deal with them. The households are characterised based on ethnicity, income status, occupation, and household head information to understand the heterogeneity in the sample. Also, at some instances, the information from both 2014 and 2016 VARHS survey data-sets is used to provide a comparative between the shocks and risk-coping mechanisms across the two-year period.

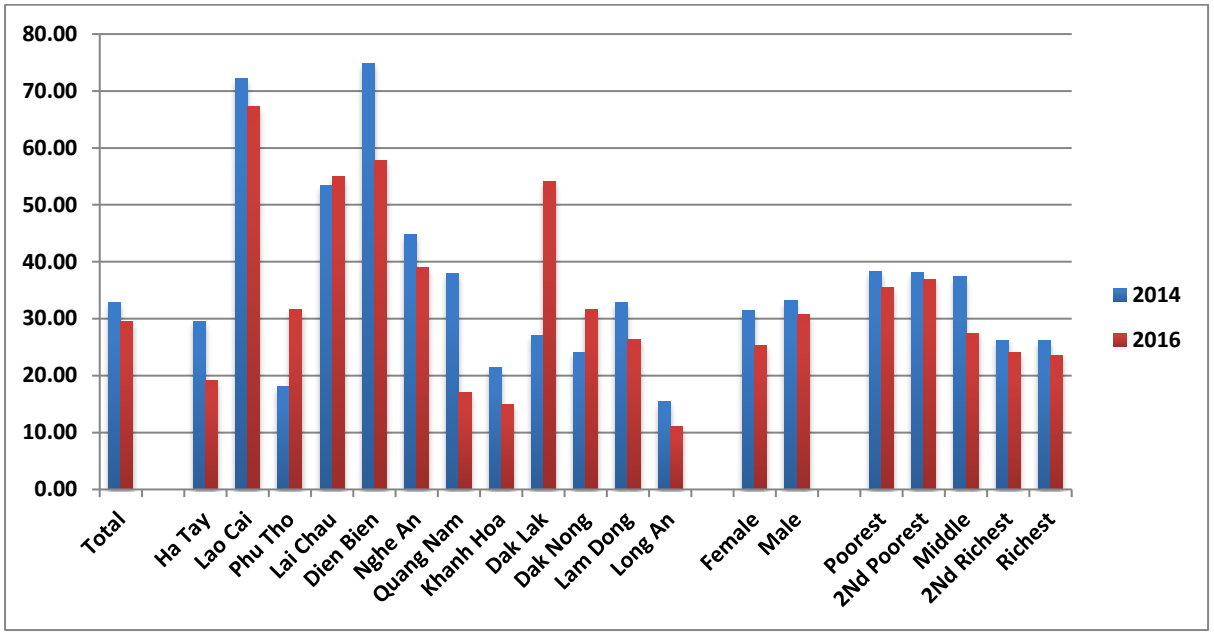
7.2 Risks and Shocks

This section provides information on risk prevalence amongst the households belonging to different provinces, income groups and household head characteristics in 2014 and 2016. Figure 7.1 compiles the percentage of households reporting shocks from 2014 to 2016, and as it can be seen; roughly 29 percent of the households report incidence of shocks in 2016, which is lower than the 32 percent of the households in 2014. The prevalence of these shocks is quite varied in different provinces, and in general there is a fall in its incidence from 2014 to 2016; except Dak Lak and Phu Tho; where the incidence of shocks increased significantly from 2014 to 2016 (54 percent in 2016 versus 27 percent in 2014 for Dak Lak, and 31 percent in 2016 against 18 percent in 2014 for Phu Tho).

Some provinces have maintained higher incidence of shocks in both the years; such as Lao Cai (72 percent in 2016 and 67 percent in 2014), Lai Chau (53 percent in 2016 and 55 percent in 2014), and Dien Bien (75 percent in 2016 and 58 percent in 2014), while others have shown significant decline; particularly Ha Tay (29 percent in 2016 to 19 percent in 2014) and Quang Nam (38 percent in 2014 to 17 percent in 2014).

The prevalence of shocks, based on the household characteristics, remain consistent in 2014 and 2016; with a general fall across all household categories. The incidence of shocks in 2016 is higher amongst the male headed households as compared to the female headed households (31 percent in male versus 25 percent in female). Also, the categorisation based on socio-economic conditions of the households (based on income quintiles) show that the poorest are most affected by shocks as compared to the middle, second richest and richest households. It might be the case that these households are pushed in poverty cycle due to their exposure to shocks, henceforth the relationship between shocks and the household income groups should not be interpreted as causal.

Figure 7.1: The incidence of shocks amongst households (percent, N=2,666)



The incidence of shocks is further disaggregated based on ethnicity, occupation, and educational attainment of the household head, as shown in Figure 7.2. As the results suggests, the non-Kinh households report substantial level of shocks as compared to the Kinh households (53 percent versus 23 percent). Also, the households who rely primarily on agricultural income report highest incidence of shocks (around 33 percent), against the wage/salary households (around 28 percent) and the non-wage/non-farm households (around 25 percent).

Moreover, reporting of the shocks is higher for the households whose head has lower education level. It reduces subsequently for increasing levels of education, being the lowest for the households whose heads complete upper secondary schooling (22.4 percent).

Figure 7.2: Characteristics of households reporting shocks, 2016 (percentages, N=2,669)

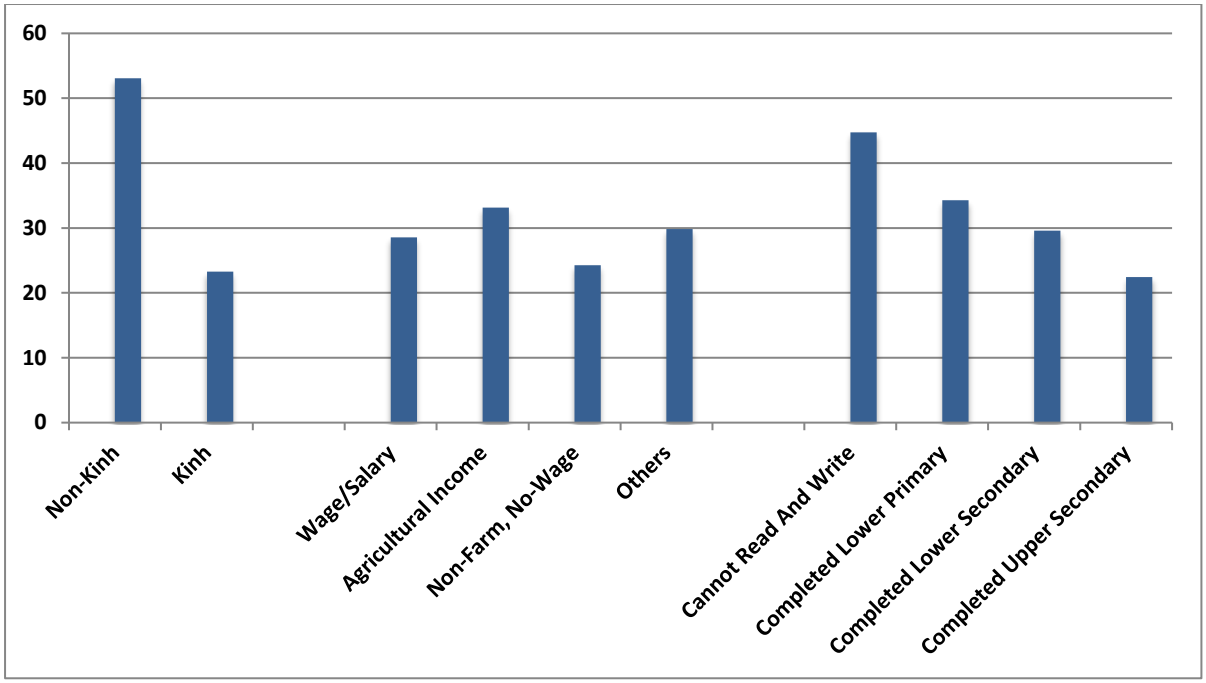
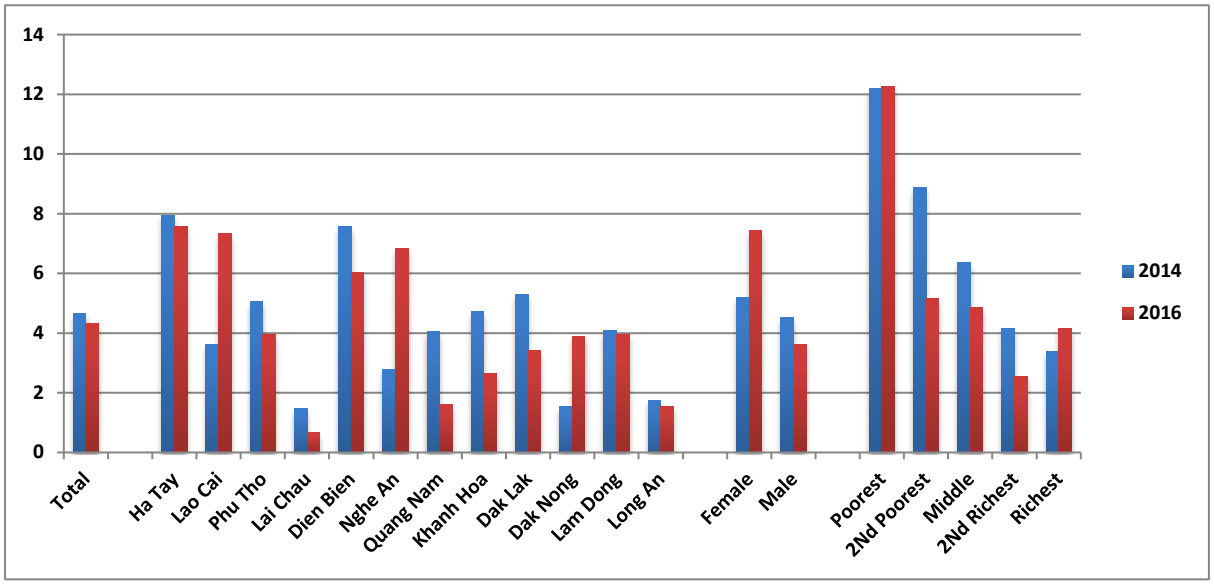


Figure 7.3: Value of loss due to shocks as share of net annual income (percent)



N=2,666

Figure 7.3 shows the value of loss due to shocks as share of net annual income in 2014 and 2016. The value of loss in 2016 is marginally lower than the value of loss in 2014 (4.3 percent against 4.6 percent), however the difference does not seem to be of much significance. The value of loss increases substantially for provinces such as Lao Cai and Nghe An from 2014 to 2016, even though the incidence of shocks in these provinces reduces in 2016 (as shown in Figure 7.1). The losses as percentage of net income increased significantly for female headed households in 2016, however it declined in male headed households. Also, it is seen that the relative effect of shocks is very high for poorest

income households in both 2014 and 2016, however the extent of loss decreases with increasing income groups.

Table 7.1 shows the average value of losses due to income shocks in surveyed provinces across different household characteristics in 2016.

Table 7.1: Value of loss due to income shocks, 2016 ('000 real VND, N=796)

Province	Shocks Value ('000 VND)	Gender of HH Head	Shocks Value ('000 VND)	Ethnicity	Shocks Value ('000 VND)
Ha Tay	48,207	Female	22,853	Kinh	17,736
Lao Cai	7,539	Male	14,446	Non-Kinh	12,591
Phu Tho	14,471	**Income Quintile**			
Lai Chau	962	Poorest	16,916		
Dien Bien	8,102	2Nd Poorest	11,771		
Nghe An	13,791	Middle	11,459		
Quang Nam	10,471	2Nd Richest	14,074		
Khanh Hoa	16,500	Richest	27,608		
Dak Nong	21,823	**Main Income Source**			
Dak Lak	6,669	Wage/Salary	13,610		
Lam Dong	17,503	Agricultural Income	15,499		
Long An	17,106	Non-Farm, No-Wage	12,146		
	Total	Other	16,400		
	16,379				

The number of households reporting shocks in 2016 is 796 as compared to 874 in 2014. Amongst them, the average value of loss due to income shocks across all the provinces is found to be around 16 million VNDs. The highest value is recorded in Ha Tay (48 million VND), followed by Dak Nong (21.8 million VND), Lan Dong and Long An (17 million each). Although, exposure of the shocks was lower in female headed households, the average value lost in these households is much higher as compared to the male-headed households (22.8 million VND against 14.4 million VND). Further, at different levels of economic status, it is found that households belonging to the lowest income quintile suffer average loss of almost 17 million VND due to income shocks. The losses, as expected, are highest in the richest income quintile (around 27.6 million VND), as these households have more to lose as compared to the poorest households. Again, the share of average losses is very high for the households who rely on agricultural production (15.5 million VND) as compared to households who belong to other occupation groups. Based on ethnicity, the Kinh households experience an average loss of around 17.7 million VND, much higher than non-Kinh households suffering an average loss of around 12.5 million VND.

Another version of average losses due to income shocks is shown in Table 7.2; where the mean values are estimated across the entire sample (N=2,669).[20] The average value of losses here is around 4.8 million VND in 2016, much less than 16 million VND, as reported in Table 7.1. The values are consistent with the results in Table 7.1; with highest average

[20] It is different from Table 1, since average losses in Table 1 were calculated only for those households who report prevalence of shocks (N=796).

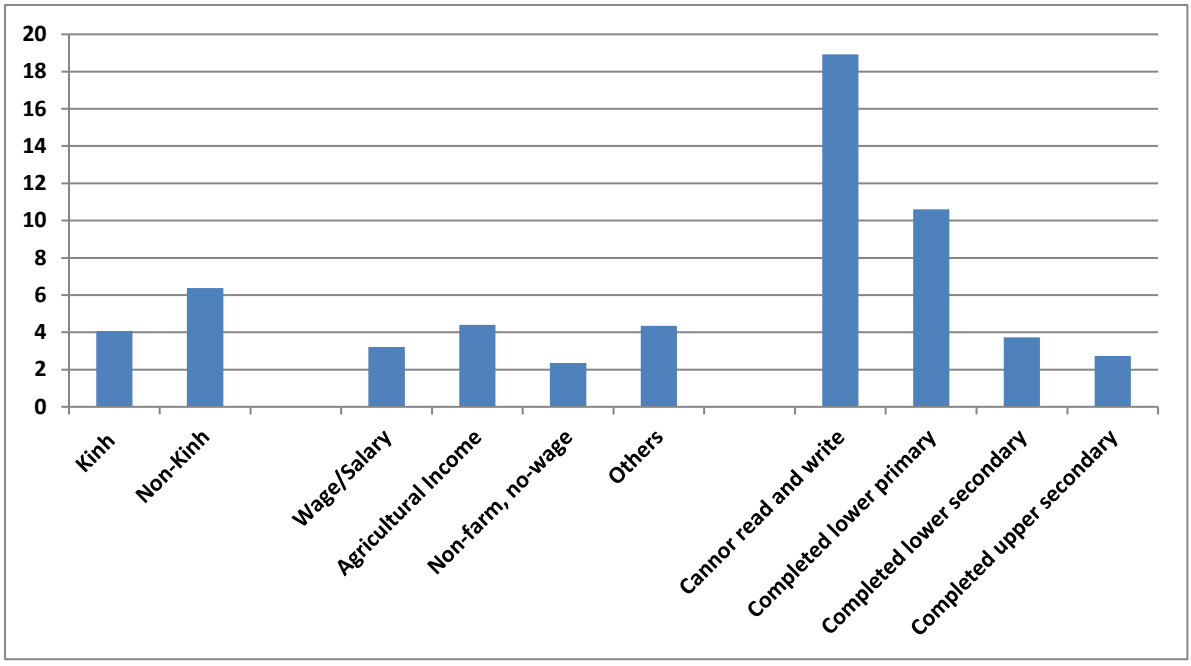
value of loss recorded in Ha Tay (9.6 million VND), followed by Dak Nong, Nghe An and Lam Dong (6 million VND each). Interestingly, the value of average losses in Long An reduces to 2.3 million VND when we consider all the households in the sample. In all other groups the average losses follow the similar trend, as shown in Table 7.1; with female headed households, richest income group, agricultural households and Kinh ethnicity reporting more average losses compared to other households in respective categories.

Table 7.2: Value of loss due to income shocks, 2016 ('000 real VND, N=2,669)

Province	Shocks Value ('000 VND)	Gender of HH Head	Shocks Value ('000 VND)	Ethnicity	Shocks Value ('000 VND)
Ha Tay	9,675	Female	6,670	Kinh	4,919
Lao Cai	3,938	Male	4,337	Non-Kinh	4,756
Phu Tho	4,052	**Income Quintile**			
Lai Chau	462	Poorest	5,449		
Dien Bien	3,913	2Nd Poorest	3,395		
Nghe An	6,370	Middle	3,256		
Quang Nam	1,756	2Nd Richest	4,304		
Khanh Hoa	3,520	Richest	8,029		
Dak Nong	6,997	**Main Income Source**			
Dak Lak	3,186	Wage/Salary	3,794		
Lam Dong	6,605	Agricultural Income	4,802		
Long An	2,392	Non-Farm, No-Wage	3,517		
	Total 4,885	Other	4,927		

Further, Figure 7.4 shows the loss as share of net income, across other characteristics of households in 2016 (in addition to categories shown in Figure 7.3).

Figure 7.4: Loss as share of net income by household characteristics (2016, N=2,669)



As the graph suggests, the households with heads being unable to read and write experienced greater proportion of losses relative to their net incomes. In the category of occupation, the results are consistent with the existing trends and it can be deduced that

households who rely on agricultural income suffer higher proportion of losses as compared to other categories. This can be attributed to (i) lower average income for the agricultural households, and (ii) the agricultural households suffer higher amount of average losses, as shown previously in Table 7.2. Also, Non-Kinh households are found to be more exposed to shocks (as shown previously in Figure 7.2), therefore these households suffer more losses as a share of net income against the Kinh households, shown in Figure 7.4.

In Table 7.3, the income shocks are disaggregated into natural disasters, biological shocks, health shocks, etc. Here, the average values are estimated only for the respondents who report the incidence of shocks (N=796 in 2016). Amongst them, the most frequent shocks were natural disasters (38.2 percent), biological shocks (almost 40 percent), and illness, injury or death of a household member (33 percent). The percentage of households suffering other shocks is found to be low and these shocks are primarily change in crop prices (6.28 percent), shortage or input price change (1.51 percent), food or commodity price change (0.38 percent), job loss (0.75 percent), unsuccessful investment (0.88 percent), and land loss (2.89 percent).

The effect of income shocks is also disaggregated based on household characteristics and it is observed that the male headed households suffer more from dominant shocks (natural disaster and illness/injury) while female headed households suffer more from other remaining shocks (change in input and commodity prices, unemployment, land loss, etc.). As expected, agricultural households are highly affected (around 39 percent) by natural disasters since crops are more vulnerable to covariate shocks. Also, the incidence of biological shocks and health shocks is higher in households whose heads cannot read and write, indicating less coverage of formal insurance mechanisms or less availability of other risk-coping mechanisms for such households. It is also important to note that the most frequent shocks do not have much variability across different income groups. However, ethnicity seems to be an important characteristic for the incidence of shocks in most of the categories, since the non-Kinh households report higher losses as compared to Kinh households.

Table 7.4 shows the loss to net income ratio for various kinds of shocks and it appears that unsuccessful investment, job loss, shortage or input price change, crop price change and illness or death of a household member dominate with much higher losses relative to net income. This might be because most of the aforementioned shocks (except the health shocks) are not commonly covered by formal insurance instruments.

The next section of this chapter focusses on the risk-coping mechanisms; formal and informal, undertaken by the households in the event of income shocks.

Table 7.3: Share of households affected by income shock, 2014-2016 (percent, N=796)

	Natural Disasters	Biological Shock	Crop Price Change	Shortage Or Input Price Change	Food Or Commodity Price Change	Job Loss	Unsuccessful Investment	Land Loss	Illness, Injuries Or Death	Other Shocks
Total	38.19	39.95	6.28	1.51	0.38	0.75	0.88	0.25	33.04	2.89
Gender Of HH Head										
Female	37.16	40.98	7.10	2.19	0.55	1.09	1.09	0.00	30.60	2.73
Male	38.50	39.64	6.04	1.31	0.33	0.65	0.82	0.33	33.77	2.94
Total Income Quintiles										
Poorest	37.21	36.05	7.56	1.16	0.58	1.16	0.58	0.00	34.30	2.33
2Nd Poorest	42.86	41.56	6.49	1.95	0.65	0.00	0.65	0.00	29.87	0.65
Middle	42.11	42.76	10.53	1.32	0.66	0.66	0.00	0.00	28.95	3.95
2Nd Richest	34.97	38.04	4.29	2.45	0.00	1.23	1.23	0.61	35.58	4.29
Richest	34.19	41.94	2.58	0.65	0.00	0.65	1.94	0.65	36.13	3.23
Main Income Source										
Wage/Salary	38.69	41.07	5.75	1.59	0.00	0.60	0.79	0.20	33.33	2.98
Agricultural Income	39.06	39.21	6.53	1.52	0.15	0.61	0.91	0.30	33.28	2.13
Non-Farm, No-Wage	36.45	35.96	5.42	0.49	0.49	1.97	0.99	0.00	36.95	1.97
Others	38.60	39.62	6.11	1.53	0.38	0.76	0.89	0.25	33.25	2.93
Education level of the HH head										
Cannot Read And Write	37.50	41.67	6.94	4.17	0.00	0.00	0.00	0.00	33.33	1.39
Completed Lower Primary	43.14	39.22	5.88	1.31	0.65	1.31	1.31	0.00	29.41	3.27
Completed Lower Secondary	37.43	38.29	7.14	1.14	0.29	0.57	1.14	0.29	36.00	3.14
Completed Upper Secondary	36.50	40.50	5.50	1.50	0.50	1.00	0.50	0.50	31.00	3.00
Can Read And Write	33.33	61.90	0.00	0.00	0.00	0.00	0.00	0.00	28.57	0.00
Ethnicity										
Non-Kinh	38.57	36.67	8.10	2.86	0.00	0.95	0.95	0.00	32.86	3.33
Kinh	38.05	41.13	5.63	1.02	0.51	0.68	0.85	0.34	33.11	2.73

Table 7.4: Loss to net income ratio by shock type, 2016 (Percentage)

	Natural Disaster	Biological Shock	Crop Price Change	Shortage Or Input Price Change	Food Or Commodity Price Change	Job Loss	Unsuccessful Investment	Land Loss	Illness, Injuries Or Death	Other Shocks
Percent	5.89	5.95	17.16	17.97	52.40	37.16	29.55	4.58	19.14	18.87
Observations	334	353	55	12	3	6	7	2	287	23

7.3 Risk Coping Mechanisms

As it can be seen from Table 7.5, most of the households were self-reliant in dealing with the shocks (89.7 percent). Amongst them, majority did nothing (49.25 percent), reduced consumption (37.81 percent), used savings (13.19 percent), or sold assets (6.91 percent). The risk-coping mechanisms are also categorised based on informal and formal mechanisms adopted, and it can be seen that most households relied on informal measures against the formal ones (20.23 percent versus 11.81 percent). The coping mechanisms did not differ much amongst male and female-headed households for almost all of the available measures. However, it is observed that the poorest households relied most on informal mechanisms (21 percent) and consumption reduction (39 percent) in dealing with the shocks. Sale of assets and getting assistance from friends and relatives was also high amongst them (8.1 percent and 16 percent); being higher than other income quintile, which indicates higher severity of shocks in poorest income groups. Also, the use of savings was less in the poorest income quintile (9.8 percent), which indicates that these households did not have much savings at their disposal for dealing with the shocks.

Among different categories of occupation, the agricultural households report higher percentages for reducing consumption, doing nothing or seeking help from family and friends in the event of shocks. This suggests a lack of formal risk coping mechanisms for agricultural households to cope up with the vulnerability of income shocks. The education of household head also seems to be an important characteristic towards risk coping mechanisms and it can be seen that households whose heads cannot read and write show poor performance in dealing with shocks. The coping mechanisms across ethnicities do not differ much and is similar to the general trend of all the households taken together.

The information about the extent of recovery from different kinds of shocks is presented in Table 7.6. Most of the households report complete (42.42 percent) or partial recovery (42.51 percent) from shocks. Disaggregating by the types, households seem to recover completely or partially from natural disasters, biological shocks, crop price change shock, shortage or input price changes, and illness, injury or death. However, the shocks such as job loss, land loss, unsuccessful investment (though in small number) remain to be prevalent with higher percentage of households reporting to have been suffering from the effects until the survey was conducted. These shocks are quite small as compared to others (shown in Table 7.3), however as Table 7.4 shows, the loss to net income ratio for such shocks (especially the job loss and unsuccessful employment) is very high. Having discussed the risk coping strategies and extent of recovery from shocks, the following sections shed light on the trends for the formal risk coping mechanisms such as insurance and savings.

Table 7.5: Risk coping mechanisms, 2016 (percentage, N=796)

	Self-Reliance	Informal Mechanisms	Formal Mechanisms	Other Mechanism	Did Nothing	Reduced Consumption	Sold Land, Livestock, or other	Assistance From Relatives	Assistance From Ngo, Govt.	Got Insurance Payment	Borrowed From Bank	Borrowed From Others	Used Savings	Other
Total	89.70	20.23	11.81	3.14	49.25	37.81	6.91	16.96	3.77	4.15	4.27	5.15	13.19	5.78
Gender of HH head														
Female	92.35	17.49	10.93	2.73	51.37	35.52	6.01	15.30	5.46	2.19	3.83	3.83	12.57	5.46
Male	88.91	21.04	12.07	3.26	48.61	38.50	7.18	17.46	3.26	4.73	4.40	5.55	13.38	5.87
Total Income Quintiles														
Poorest	90.12	20.93	12.79	2.91	47.09	38.95	8.14	16.86	4.07	4.07	4.65	5.23	9.88	5.23
2Nd Poorest	88.96	18.83	9.74	3.25	53.90	36.36	3.90	16.23	3.25	3.25	3.25	3.90	13.64	6.49
Middle	92.11	18.42	9.87	3.95	44.74	40.13	7.89	16.45	4.61	3.29	2.63	3.95	19.08	6.58
2Nd Richest	88.96	22.70	14.11	2.45	49.69	38.04	7.36	17.79	4.91	4.91	4.91	7.36	13.50	4.91
Richest	88.39	20.00	12.26	3.23	50.97	35.48	7.10	17.42	1.94	5.16	5.81	5.16	10.32	5.81
Main income source														
Wage/Salary	88.89	19.05	12.50	3.77	49.80	36.11	6.94	16.27	3.97	4.56	4.37	4.96	13.69	6.94
Agricultural Income	89.82	19.76	10.94	3.19	48.33	39.67	7.14	16.87	3.65	4.10	3.65	4.71	12.92	6.08
Non-Farm, No-Wage	89.16	21.18	15.27	3.45	48.28	36.45	8.37	18.23	4.93	6.90	3.94	5.42	13.79	4.93
Others	89.55	20.25	11.85	3.18	48.92	38.34	7.01	16.94	3.82	4.20	4.20	5.22	12.99	5.86
Education of the HH head														
Cannot Read And Write	91.67	18.06	12.50	2.78	48.61	38.89	4.17	13.89	5.56	4.17	2.78	4.17	15.28	8.33
Lower Primary	90.85	17.65	9.80	2.61	50.33	33.99	7.19	14.38	3.27	3.27	3.92	5.23	9.80	7.19
Lower Secondary	89.14	22.86	11.71	2.86	50.00	40.00	5.71	19.43	4.57	3.43	4.29	6.00	12.86	4.00
Upper Secondary	89.50	18.50	13.50	4.50	47.00	37.50	8.50	16.00	2.00	6.00	5.50	4.00	15.00	7.50
Ethnicity														
Non-Kinh	89.52	21.90	11.43	1.90	50.00	35.71	7.14	18.57	5.24	4.29	2.38	5.24	16.67	4.76
Kinh	89.76	19.62	11.95	3.58	48.98	38.57	6.83	16.38	3.24	4.10	4.95	5.12	11.95	6.14

Table 7.6: Recovery by shock type, 2016 (percentage)

Shocks	Observations	Completely	Partly Recovered	Still Suffering Badly
Total	796	42.42	42.51	15.06
Natural Disaster	251	41.92	44.31	13.77
Biological Shock	243	44.76	43.34	11.90
Crop Price Change	36	60.00	29.09	10.91
Shortage Or Input Price Change	5	58.33	33.33	8.33
Food Or Commodity Price Change	1	33.33	33.33	33.33
Job Loss	5	16.67	33.33	50.00
Unsuccessful Investment	2	0.00	57.14	42.86
Land Loss	1	0.00	50.00	50.00
Illness, Injuries Or Death	234	37.28	44.25	18.47
Other Shocks	18	52.17	17.39	30.43

7.4 Insurance

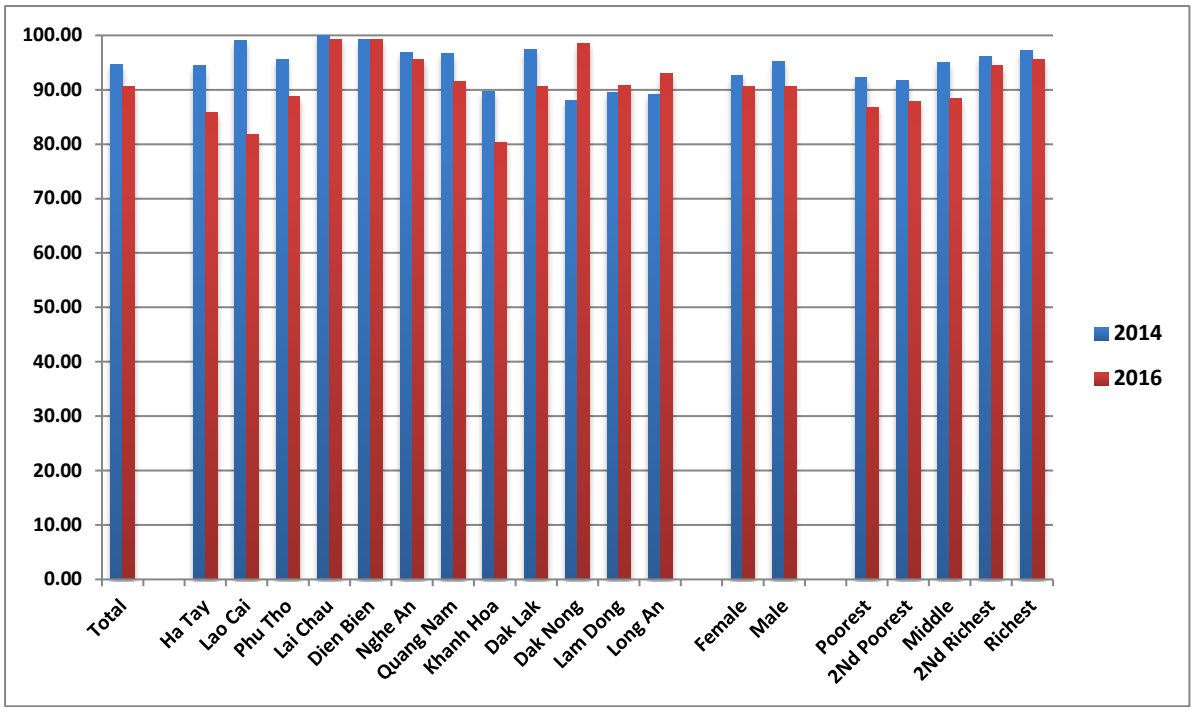
Vietnam is much advanced as compared to other developing countries in terms of social protection. The government provides public health insurance schemes; therefore, the overall rate of insurance membership is very high amongst Vietnamese households.[21] Figure 7.5 shows the membership of any (at least one) insurance product in 2014 and 2016 across different provinces and categories of the households. As the graph suggests, almost 90 percent of households are covered by insurance in 2016. However, the rate is lower than the membership which was recorded previously in 2014; being almost 94 percent. Nonetheless, provinces such as Dak Nong, Lam Dong and Long An saw a rise in insurance membership in 2016 as compared to 2014.

With respect to households having male or female head, the membership remains similar with the rate of insurance being around 90 percent for both the categories in 2016. However, it is observed that for both the years, membership of insurance increases with increasing income quintiles; the poorest categories having relatively less rate of insurance membership as compared to higher income quintile households. The variability of insurance membership amongst different income groups was less in 2014; the poorest income households reported almost 92 percent insurance coverage against the richest having 97 percent coverage, however the variability increased substantially in 2016 with the membership rate for poorest income quintile reducing to 86.85 percent against 95.49 percent for the richest income quintile.

The share of households having membership of different insurance product is shown in Table 7.7.

[21] Vietnam plans to achieve universal health coverage, which was approved in 2012. It aims to expand the coverage 80 percent by 2020. Retrieved from the World Bank News, 2014). Link: https://www.worldbank.org/en/news/press-release/2014/09/17/social-health-insurance-in-vietnam-progress-made-but-challenges-remain-to-reach-universal-coverage

Figure 7.5: Households with at least one Insurance product (percent)



As it can be seen, the highest membership is recorded for the compulsory health insurance (24.66 percent), general health insurance (54.49 percent), and free health insurance for children (33.55 percent). This provides evidence for successful implementation of the health insurance schemes by the government.[22] Vehicle insurance, being mandatory on the purchase of vehicles is also found to be high (around 25 percent). The membership rate is roughly the same in female and male headed households; however, there are some relevant differences in insurance subscriptions across different income quintiles. The lowest income households report to have the maximum membership in free health insurance and the least for voluntary health insurance. The membership is fairly homogenous across households based on occupation; however, education of the household head seems to be an important characteristic, especially for life, general health and free health insurance for children.

Even though the insurance membership is high; particularly health insurance, it is observed that shocks due to illness, injury or death were quite dominant (as shown in Table 7.3). Also, it is not very clear if the insurance schemes help in coping with the income shocks. Only 4.15 percent of households report to have used insurance payments as an ex-post risk coping strategy (Table 7.5); with substantial numbers of households still recovering from health shocks (18.46 percent as shown in Table 7.6).

[22] Health Care Fund for the Poor (HCFP) was created by the government in 2003 for the poor, ethnic minorities and the disadvantaged. Later, HCFP was rolled into the national compulsory health insurance scheme in July 2009 as the result of the new National Health Insurance Law (Rousseau, 2014)

Table 7.7: Insurance ownership, 2016 (percentage, N=2,417)

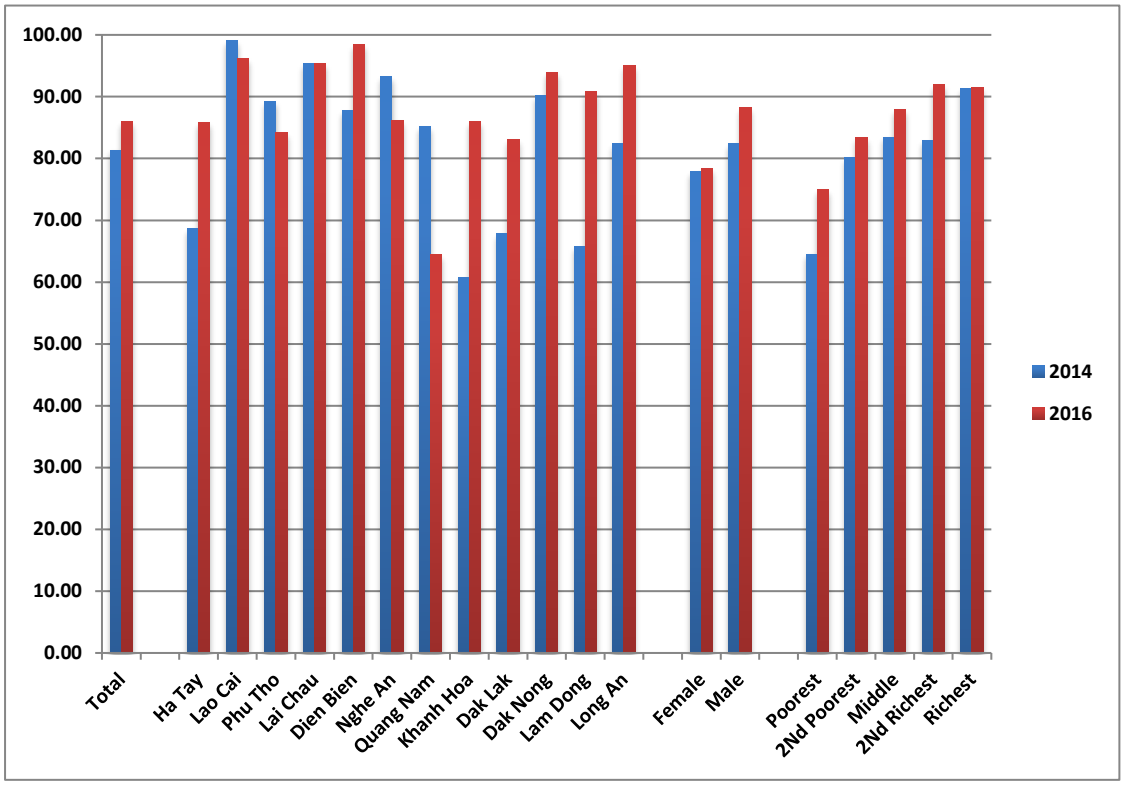
	Life Insurance	Voluntary Social	Compulsory Health	Health Insurance	Unemployment Insurance	Free Health Insurance	Free Health Insurance For Children	Education Insurance	Vehicle Insurance	Other Insurance
Total	2.69	2.32	24.66	54.49	16.88	16.92	33.55	18.66	24.95	14.40
Gender Of HH Head										
Female	2.42	1.73	25.95	55.54	17.99	18.17	35.99	16.96	24.91	13.32
Male	2.77	2.50	24.25	54.16	16.53	16.53	32.79	19.20	24.96	14.74
Total Income Quintiles										
Poorest	2.61	2.01	25.30	54.62	16.67	16.67	36.35	19.88	23.69	15.86
2Nd Poorest	3.13	2.71	26.25	49.58	17.92	19.58	32.50	16.67	25.63	13.96
Middle	3.26	2.24	26.68	58.04	17.92	15.48	33.81	17.52	26.48	12.83
2Nd Richest	2.73	1.89	23.06	54.93	16.35	16.14	30.82	18.66	25.16	15.72
Richest	1.70	2.76	21.87	55.20	15.50	16.77	34.18	20.59	23.78	13.59
Main Income Source										
Wage/Salary	3.03	2.16	24.30	54.36	16.82	16.51	32.34	19.48	25.73	13.91
Agricultural Income	2.79	2.43	25.30	54.83	17.71	16.31	32.78	18.79	25.71	14.35
Non-Farm, No-Wage	2.06	2.22	24.68	53.64	18.04	18.35	35.60	17.88	24.53	16.77
Others	2.66	2.28	24.37	54.19	16.71	17.13	33.46	18.74	24.96	14.42
Education of the HH head										
Cannot Read And Write	2.92	1.75	29.82	54.39	19.88	15.79	29.24	24.56	26.90	19.88
Completed Lower Primary	4.02	2.76	23.87	55.78	16.33	18.09	33.92	18.09	20.35	12.06
Completed Lower Secondary	2.19	1.93	23.68	52.63	15.88	17.46	33.16	17.11	24.56	14.82
Completed Upper Secondary	2.32	2.94	24.73	56.72	17.93	15.46	33.69	20.71	27.05	13.29
Ethnicity										
Non-Kinh	4.79	2.20	27.54	50.50	17.56	17.17	34.73	21.96	25.95	13.57
Kinh	2.14	2.35	23.90	55.53	16.70	16.86	33.25	17.80	24.69	14.61

7.5 Savings

In the study by Wainwright and Newman (2011) on VARHS data, it is shown that households deplete the stock of savings in the event of covariate shocks such as natural disasters. This provides a good evidence that savings serve as an important buffer during the time of financial distress. The findings of the study hold for this survey as well, since the use of savings as a risk-coping mechanism is reported to be high in 2016 (almost 14 percent, as shown in Table 7.5).

Figure 7.6 shows the percentage of households having positive stock of savings in 2014 and 2016.

Figure 7.6: Households with positive stock of savings (percent)



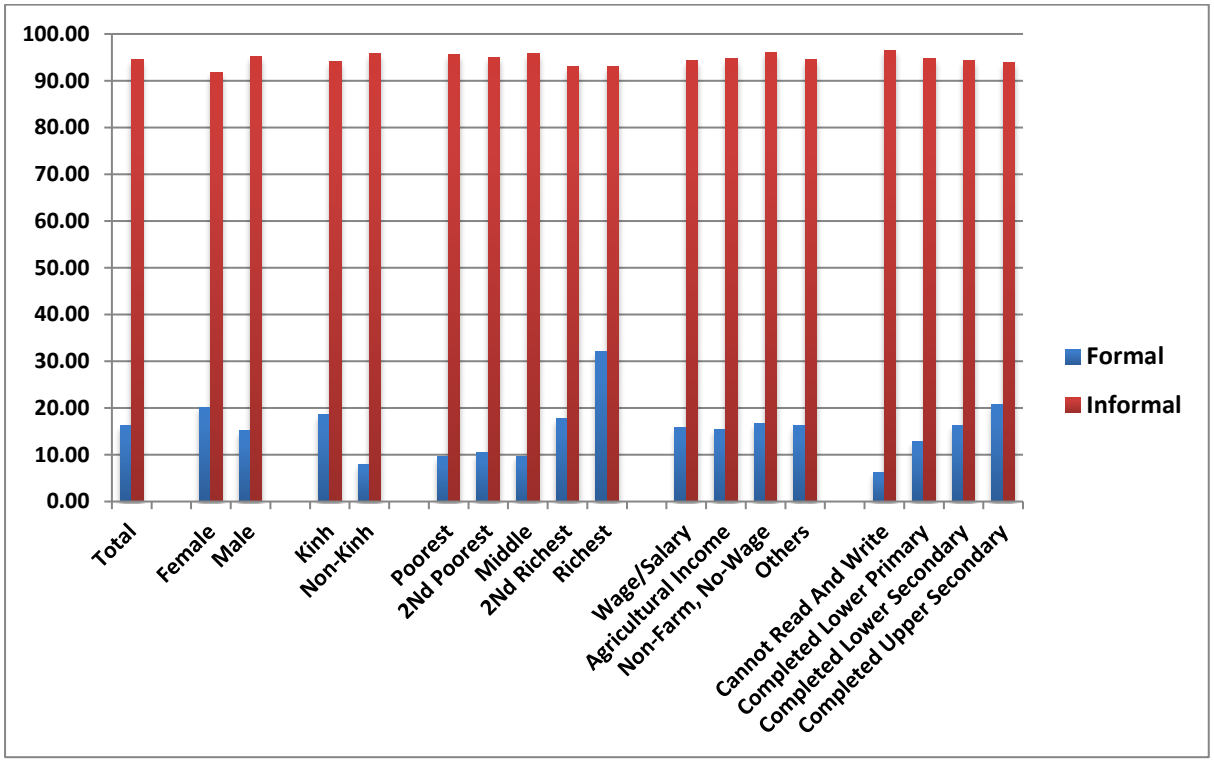
Clearly, the percentage of households with positive stock of savings has increased in 2016 as compared to 2014 (around 86 percent in 2016 versus 81 percent in 2014). The trend persists for nearly all provinces, except for few where there is a marginal decline in the savings rate; such as Lao Cai, Phu Tho and Nghe An. Quang Nam shows significant reduction in savings rate (64.44 percent in 2016 against 85 percent in 2014), which is very surprising since the incidence of shocks was low for this province in 2016. On the contrary, there are some provinces where the increase in savings rate was quite high; Ha Tay (85.7 percent versus 68 percent), Dien Bien (98.37 percent in 2014 against 87.80 percent in 2014), Khanh Hoa (almost 86 percent in 2016 against 60.75 percent in 2014),

Dak Lak (83 percent in 2016 against 68 percent in 2014), and Lam Dong (almost 91 percent in 2016 against 66 percent in 2014).

Moreover, the rate for positive savings increased for both female and male headed households, however it is observed that male headed households (88 percent in 2016) save 10 percent more than the female headed households (78 percent in 2016).

The rate of savings increases with income quintiles in both the years; with the differential of positive savings rate between the poorest and richest income households lowering to nearly 16 percent in 2016 from 27 percent in 2014. The households save in variety of formal instruments; such as banks, credit organisations and post office accounts, and informal savings devices such as private money lender, ROSCAS, or in the form of cash or gold. Figure 7.7 shows the relative shares of savings in formal and informal devices across distinctive characteristics of the households.

Figure 7.7: Households with formal and informal savings, 2016 (percent, N=2,300)



As the graph shows, the use of informal savings devices clearly dominates amongst the VARHS households. Savings in informal devices account for 94 percent of households against only 16 percent who use formal savings devices, in 2016. Interestingly, the households with female heads save more in formal devices as compared to male headed households (20 percent against 15 percent). Across the ethnicities, Kinh households use formal savings devices more (18.6 percent) as compared to non-Kinh households (8 percent). The use of informal and formal savings across categories of occupation is similar. However, access to formal savings is low for the poorest income group and households

with uneducated heads; being as low as 8 percent and 4.11 percent respectively. Households with heads who cannot read or write save majorly in informal devices (around 97 percent) but this is also high for the households whose heads finished upper secondary school (almost 94 percent). Also, it is evident from Figure 7.7 that the use of formal savings devices rises with increase in the education of the household head, whereas the use of informal savings devices reduces with increasing education level of the household head.

These results indicate the wide gap which exists between the informal and formal means of savings; hence there is ample scope for the expansion of banking networks and formal financial services in Vietnam.

7.6 Reasons to Save

Table 7.8 lists down the main reasons to save, reported by the households in the VARHS survey. As the results suggest, most of the household savings are precautionary; such as savings for health care expenses (47 percent) and for protection against a natural disaster (15 percent). This is consistent with the previous trends, which provide some evidence for savings acting as a buffer in the event of an income shock. However, it also raises a concern about the role of savings to serve as a resource for productive investment purposes, and as it appears only 5.4 percent of the households save for profitable. Henceforth, as mentioned previously, the scepticism around the effectiveness of insurance pay-outs persists.

The precautionary savings also seem to be higher for the households in the poorest food expenditure quintile, agricultural households as well as households whose heads cannot read and write. Likewise, these households also tend to save much less for productive and profitable ventures. Since the non-Kinh households are most affected by the income shocks, as suggested by Figure 7.2, it is found that the differential between the two ethnicities for precautionary savings is quite substantial (32 percent non-Kinh versus 10 percent Kinh). Henceforth, this implies higher proportion of Kinh households investing in profitable activities, which is quite true since around 6 percent of Kinh households report to save for investment purpose against only 1 percent non-Kinh households.

Lastly, the decision to save is also driven by the lifecycle motives such as old age (20.43 percent), and for other big expenditures by the households (47.61 percent). These savings are mostly done using formal sources and their extent is higher in higher food quintiles and non-farm occupation households.

Table 7.8: Reasons to save, 2016 (percentage, N=2300)

	Protect Against Bad Harvest/Natural Disasters	Provide For Old Age	Health Care Expenses	Accumulate For Other Big Expenses	Cost Of Education	Buy Agricultural Inputs	Profit Making Investment	Others
Sample	15.52	20.43	47.00	47.61	20.87	18.61	5.43	19.83
Formal	16.52	16.62	46.49	43.79	19.74	19.48	2.03	18.23
Informal	10.40	40.00	49.60	67.20	26.67	14.13	22.93	28.00
Gender of HH head								
Female	9.60	29.00	53.20	44.80	18.80	12.40	5.80	23.40
Male	17.17	18.06	45.28	48.39	21.44	20.33	5.33	18.83
Food Exp. Quintiles								
Poorest	26.95	19.39	53.66	30.97	12.77	17.02	1.89	13.24
2Nd Poorest	15.25	23.99	48.43	37.44	21.08	19.28	1.79	19.06
Middle	15.62	20.82	45.34	49.02	18.66	19.31	6.07	22.34
2Nd Richest	12.16	16.56	45.28	56.18	24.95	17.82	7.34	22.64
Richest	9.13	21.50	43.20	61.46	25.76	19.47	9.33	21.10
Main Income Source								
Wage/Salary	16.04	17.64	46.76	49.90	22.84	19.56	5.52	19.37
Agricultural Income	18.81	17.34	45.31	46.18	20.39	23.23	4.96	18.97
Non-Farm, No-Wage	13.14	19.32	44.36	53.48	25.66	12.21	8.19	24.57
Others	15.70	20.22	47.05	47.36	21.02	18.63	5.45	20.00
Educational of HH head								
Cannot Read And Write	29.66	12.41	47.59	31.72	13.79	26.90	2.07	14.48
Completed Lower Primary	18.85	22.95	48.09	34.97	18.85	19.95	5.74	16.12
Completed Lower Secondary	14.79	20.28	45.88	51.37	19.34	19.43	4.27	20.57
Completed Upper Secondary	11.32	21.47	47.21	52.94	26.76	15.15	7.50	20.88
Ethnicity of HH head								
Non-Kinh	32.00	9.60	44.20	35.20	19.40	30.20	1.00	10.60
Kinh	10.94	23.44	47.78	51.06	21.28	15.39	6.67	22.39

7.7 Summary

The analysis done in this chapter shows that the overall incidence of shocks reduced between 2014 and 2016, however few provinces such as Dak Lak and Phu Tho experienced significant increase in the occurrence of shocks in 2016. Some provinces such as Lao Cai, Lai Chau and Dien Bien maintained higher incidence of shocks in both the years whereas Ha Tay and Quang Nam showed significant decline in the occurrence of shocks between 2014 and 2016. This information is important from policy perspective as it indicates where the policy focus should shift in terms of dealing with the risk exposure.

It is also seen that agricultural households in general have higher average value of losses (as share of net income), compared to other occupation categories; suggesting higher vulnerability of agricultural households to income shocks. Additionally, education of the household head is also very important characteristic of risk exposure and shock incidence, since households whose heads cannot read or write reported much higher losses as compared to households having educated heads. In terms of ethnicities, it is noted that non-Kinh households are much more exposed to shocks as compared to the Kinh households. This is clear from Figure 2 and 4, where the exposure and average value of loss (as share of net annual income) is much higher for non-Kinh households. The shocks were mostly covariant such as natural disasters and crop price changes, however idiosyncratic shocks such as illness, injury or death, and biological shocks were also reported to be high in 2016.

In most of the cases, households relied on internal risk coping mechanisms such as consumption reduction, doing nothing or using savings. Also, households relied more on informal measures such as seeking assistance from family and friends. The formal risk coping mechanisms were mostly used by wealthier households.

The examination of insurance as a financial instrument for households, reveal that the overall rate of insurance membership is quite high in Vietnam. This can be attributed to good public health insurance market. However, insurance payments form a small share of risk-coping mechanisms, which again suggests high exposure to uninsured risks.

The assessment of the savings status of the households show that there was a general increase in the proportion of households having positive savings in 2016, as compared to 2014. However, majority of the households use informal savings instruments with the proportion being approximately 94 percent in 2016. The use of formal savings devices increases with income quintile of the households and educational level of the household head. Also, the savings decisions are highly motivated towards precautionary measures such as

health care expenses and natural disasters. This in turn reduces the likelihood of any productive and profitable investment made by the households; especially households belonging to the non-Kinh ethnicity.

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CHAPTER 8 SOCIAL CAPITAL AND POLITICAL CONNECTIONS

In contrast to other forms of capital, social capital exists in the relations between people. It can have different forms and can be tangible as well as intangible. Some important forms of social capital are norms, trust, and formal and informal networks (Putnam 1993). Coleman (1988) describes how social capital can be transformed into other forms of capital and how it can be beneficial for individuals and communities. Bourdieu (1986) emphasizes potentially negative aspects of social capital, as it may produce and reproduce inequalities in a society.

This chapter investigates different forms of social capital and aspects that are related to it. More specifically, it analyses formal networks and their characteristics, such as membership in political parties and other groups, and informal networks such as relations between friends and relatives. Moreover, trust in sources of information and participation in social events are also investigated as indicators of social capital.

The chapter is structured as follows: Section 10.1 describes membership in formal groups and investigates their benefits and characteristics. Section 10.2 turns to informal networks and section 10.3 looks at the sources of information used by households and how trustworthy they are perceived to be. Finally, section 10.4 concludes.

8.1 Formal Groups

It is difficult to dispute that the most important formal group in Vietnam is the Communist Party. Besides that, there are several other large and popular groups, referred to as mass organizations. These are the Youth Union, Women's Union, trade unions, and Farmers' Union. Mass organizations act as social-political groups and link the population to the Communist Party. Membership in mass organizations, especially in the Youth Union, can help to advance the members' career. Participation in social groups also helps to develop interpersonal skills and has found to be supportive for the development of a modern society (Dalton and Ong 2001).

Table 8.1 shows statistics on household membership of different formal groups. A household counts as member of a group if at least one member of that household is a member of the group. In the first column, we see that 86.7 percent of the sampled households belong to at least one group. This is a small decrease compared to 2014. In Nghe An and Phu Tho, group membership is the highest with about 97 percent. Long An stands out with the lowest share of only 61.6 percent. Comparing socioeconomic groups, there is a monotonous trend that richer households are more often member of a group than poorer ones. This might confirm

what has been suggested before, that group membership can help to the advance careers. Another explanation could be that once a household has a higher income, formal networks are perceived as more important.

Table 8.1: Group membership (percent)

	The household has at least one member of…								
	Any Group	Communist Party	Youth Union	Women's Union	Farmer's Union	Veteran's Union	Religious Group	Old age Group	Other
Total 2016	86.7	11.6	9.4	54.8	40.2	14.5	2.3	23.8	1.8
Province									
Ha Tay	87.3	8.6	6.4	59.7	29.3	19.3	0.5	26.2	2.6
Lao Cai	93.3	5.8	19.2	54.8	51.9	15.4	0.0	12.5	1.0
Phu Tho	97.1	19.5	11.3	59.7	47.9	26.3	8.7	31.6	3.2
Lai Chau	74.4	16.5	10.5	33.1	37.6	5.3	0.0	3.8	0.0
Dien Bien	91.1	22.0	17.1	68.3	53.7	11.4	0.8	22.0	0.0
Nghe An	96.9	15.2	7.1	71.4	55.4	21.9	1.8	33.5	1.3
Quang Nam	94.5	7.9	16.7	67.5	47.7	7.3	0.0	30.7	2.4
Khanh Hoa	75.7	7.5	5.6	40.2	25.2	5.6	1.9	28.0	0.0
Dak Lak	91.2	4.4	5.7	47.2	54.1	8.8	3.8	10.1	0.6
Dak Nong	88.0	17.3	3.8	62.4	51.9	15.0	4.5	9.8	2.3
Lam Dong	88.2	11.8	7.9	48.7	43.4	11.8	7.9	13.2	1.3
Long An	61.6	6.8	5.7	27.4	19.6	5.4	0.3	23.2	0.9
Gender of HH head									
Female	86.9	11.2	7.3	48.2	22.6	4.6	3.2	41.5	1.6
Male	86.6	11.7	10.0	56.9	45.6	17.6	2.1	18.3	1.8
Food expenditure quintile									
Poorest	84.6	3.7	5.8	39.9	36.3	11.6	1.3	31.6	0.2
2nd poorest	84.5	8.2	6.2	47.9	39.3	13.9	2.8	27.3	1.7
Middle	86.9	11.2	7.9	57.3	42.7	14.8	2.1	21.9	2.2
2nd richest	87.7	14.2	9.7	64.3	41.9	16.1	3.2	18.3	3.0
Richest	89.7	20.5	17.3	64.7	41.0	16.4	2.3	19.5	1.7
Total 2014	89.3	11.6	12.0	59.9	40.9	15.9	2.4	26.2	1.5

N 2016 = 2,669 Households (N 2014 = 2,664 Households)

For For membership in the Communist Party, the Youth Union, a Women's Union, or Veterans' Union, the pattern among socioeconomic groups is the same. Only 3.7 percent of the households in the poorest food expenditure quintile have a member in the Communist Party, while 20.5 percent of the richest quintile do so, implying a difference of almost 17 percentage points. This difference is 11.5 percentage points for the youth unions, 24.8 percentage points for the women's unions, and 4.8 percent for the veteran's unions. Thus, it appears that these groups are especially favourable for the better-off households, or that these groups are the most beneficial in terms of generating income.

Membership in an old age group on the other hand is more prevalent among the poorer households. 31.6 percent of the poorest quintile are member in an old age group, and only

19.5 of the richest households. Possibly, the support and benefits delivered by these groups are more important for elderly people in poor than in rich households. However, it is also likely to play a role that there are simply more elderly people in poor households (e.g. widows and widowers).

Overall, the Women's Union has the highest membership rates. 54.8 percent of the households have at least on member in the Women's Union. The Farmers' Union also displays a high membership rate with 40.2 percent. Membership in a religious group on the other hand is rare. Only 2.3 percent of the sampled households have a member in such a group.

Comparing by the gender of the household head, there is no difference in the share of households with at least one group membership. However, the membership of the different, specific groups does vary across genders. Membership in an old age or religious group is more likely for female-headed households. All other groups have higher membership rates among male-headed households. The difference is particularly high for old age groups, the Veterans' Union, and Farmers' Union. Interestingly, male-headed households are more likely to have a member in Women's Union (56.9 percent compared to 48.2 percent).

Tables 8.2 and 8.3 report distinct characteristics of the membership in the above-mentioned groups. Column 1 of Table 8.2 shows the share of groups that meet at least once a month.

Table 8.2: Group characteristics

Group	Group meets monthly or more often (percent)	Respondent almost always participates in meetings (percent)	Annual fee in 000 VND (median)	Observations
Total 2016	28.4	66.1	30	4,857
Communist Party	45.3	83.4	144	936
Youth union	28.9	68.7	24	795
Women's union	25.5	65.8	24	3,373
Farmer's union	26.3	65.5	24	2,669
Veteran's union	25.6	74.4	24	1,181
Farmer interest group	37.5	81.3	0	16
Religious group	56.9	84.8	0	211
Sports/cultural group	75.0	93.8	100	16
The Red Cross	50.0	82.5	360	80
Old age group	27.0	65.2	60	1,609
Other	22.7	87.0	24	154

N=4,857 group membership relations.

Overall, 28.4 percent of the groups meet monthly or more often. Religious groups, sports and cultural groups, and the Red Cross, all among the groups with the lowest membership rates, meet most often. The Communist Party has a high value too, with 45.3 percent. Column 2 shows the share of respondents who attend almost always to the group's meetings. Interestingly, the groups with lowest membership rates as well as the Communist Party have

the highest attendance rates. On the other hand, the mass organizations with the highest membership rates (youth, women, farmer, old age) have the lowest attendance rates.

Column 3 shows the median annual fees for group membership (means are highly affected by outliers, possibly due to measurement error). Overall, the median membership fee is 30,000 VND. Thus, for the most groups the membership fee is rather low.

Table 8.3 presents statistics on respondents' perceptions about the main benefit from their group membership. Since groups are established for different puposes, it is no surprise that there is some variation in terms of the perceptions about the most important benefits of different groups.

Table 8.3: Benefits from group membership (percent)

	What is the main benefit from joining this group? (percent)							
Group	**Benefits the community**	**Economic benefits**	**Social status and relations**	**Entertainment**	**Health benefits**	**Increase knowledge**	**Other**	**No benefit**
Total 2016	35.2	10.7	11.4	17.1	8.0	15.0	1.6	0.9
Communist Party	30.8	10.4	22.5	12.2	7.7	14.1	2.2	0.1
Youth union	34.7	15.2	9.3	16.2	8.1	14.5	1.4	0.6
Women's union	35.0	11.9	10.6	15.7	8.0	15.7	1.7	1.3
Farmer's union	34.8	13.1	8.0	15.2	7.2	19.4	1.4	0.9
Veteran's union	34.1	10.2	13.8	18.0	7.8	14.6	1.4	0.2
Religious group	47.9	5.7	6.2	16.1	6.2	14.2	3.3	0.5
The Red Cross	12.5	6.3	6.3	43.8	6.3	25.0	0.0	0.0
Old age group	37.3	8.1	9.8	20.9	9.8	11.0	1.3	1.7
Other	35.7	12.3	11.7	19.5	6.5	12.3	1.9	0.0

N=4,857 group membership relations

The most commonly mentioned effect of group activities is that they "benefit the community". Religious groups are perceived as the most beneficial for the community, while the Red Cross and sports and cultural groups have the lowest rates. Economic benefits are most frequently stated as the main benefit among members of the Youth Union, confirming the assumption made above, that the Youth Union serves as a stepping-stone for a successful career. Social status and relations are particularly important for members of the Communist Party (22.5 percent compared to the total average of 11.4). Increase of knowledge is an important benefit of membership in the Farmers' Union. Overall, entertainment is the second most frequently mentioned benefit with 17.1 percent, followed by knowledge increase, social status and relations, and economic benefits.

8.2 Informal Networks

Informal networks differ from formal networks in the sense that they do not have an official membership status or formal statute. They rather consist of personal relationships, family ties, and trust. In the absence of formal social security schemes or access to finance, these networks may act as a source of credit and insurance. As a measure for these networks, people were asked whether they know at least one person outside of their household they can turn to in case of an emergency. The answers are summarized in Table 8.4.

Table 8.4: Informal networks: People to turn to in case of emergency (percent)

	Share of HHs with at least one person to turn to in case of an emergency	Share of helpers who are relatives	Share of helpers who are friends	Share of helpers who are neighbors	Share of other helpers
Total 2016	94.6	72.1	21.1	19.9	3.5
Province					
Ha Tay	93.9	86.2	16.2	11.2	1.0
Lao Cai	97.4	91.7	5.7	18.8	3.1
Phu Tho	95.8	78.9	11.8	21.6	1.0
Lai Chau	97.3	58.9	51.9	21.1	0.0
Dien Bien	98.6	55.5	42.1	24.3	4.5
Nghe An	96.0	74.7	14.4	28.5	4.2
Quang Nam	93.3	46.4	24.6	24.9	14.6
Khanh Hoa	98.1	52.5	38.9	32.1	0.6
Dak Lak	91.0	66.2	23.3	14.7	1.5
Dak Nong	98.4	87.5	25.1	22.0	0.0
Lam Dong	99.3	58.1	38.2	17.6	5.1
Long An	87.7	74.5	20.9	13.8	1.2
Gender of HH head					
Female	95.0	73.9	16.0	22.9	2.8
Male	94.6	71.6	22.4	19.1	3.7
Food expenditure quintile					
Poorest	94.4	71.5	17.1	19.2	4.1
2nd poorest	95.4	66.0	22.6	23.1	4.2
Middle	95.4	72.0	20.1	19.3	4.2
2nd richest	94.5	74.9	22.6	16.1	2.9
Richest	93.6	74.8	22.3	21.8	2.3
Total 2014	93.8	75.7	16.5	15.5	2.4

N 2016 = 2,669 Households (N 2014 = 2,664 Households) Note: Interviewees were asked to name up to five people they could turn to. The different categories of helpers overlap, which explains why the numbers for different categories do not sum to 100 percent.

In 2016, 94.6 percent of households knew at least one person they could turn to in case of a financial emergency. This is a slight increase compared to 2014 (93.8 percent) and 2012 (91 percent). The prevalence of emergency contacts appears to be a bit weaker in Dak Lak (90.1 percent), and the strongest in Khanh Hoa, Dak Nong, and Lam Dong, with more than 98 percent in each of these provinces.

The remaining columns show the relationship that the households have with the helpers. 72.1 percent of the households have a relative outside of their household they can turn to in need for help. 21.1 percent of the households list a friend, and 19.9 percent a neighbour. There are some regional differences within these categories. In Quang Nam, Khanh Hoa and Dien Bien, only about half of the households have a relative to turn to, while it is more than 90 percent of the households in Lao Cai. In the latter, only 5.7 percent of the households have a friend they can ask for help, which is the lowest value in that category. In Lai Chau and Dien Bien on the other hand, more than 40 percent of the households can rely on a friend in the case of emergency. The relationship to neighbours appears to differ a lot too. In Ex-Ha Tay and Long An, only about 12 percent of the households could turn to a neighbour in case of emergency, while in Khanh Hoa, it is 32.1 percent. Male-headed households are significantly more likely to have a friend they can turn to, while female-headed households are significantly more likely to turn to a neighbour. Comparing socioeconomic groups, there are some differences as well, however no monotonous trends.

Table 8.5: Informal networks: People to turn to in case of emergency (percent) by group membership

	Share of HHs with at least one person to turn to in case of an emergency	Share of helpers who are relatives	Share of helpers who are friends	Share of helpers who are neighbors	Share of other helpers
Any group	95.2	72.9	21.4	18.9	3.4
No group	90.9	72.1	24.1	12.1	4.7
Political party	94.8	72.5	26.5	17.5	2.9
Youth union	96.4	66.1	29.1	28.7	2.8
Women's union	95.0	71.4	21.8	20.8	3.4
Farmers union	95.0	71.0	23.5	21.8	3.0
Veterans union	95.9	77.4	16.7	17.0	3.1
Religious group	98.4	82.3	16.1	22.6	0.0
Old age group	94.8	75.8	12.8	15.9	4.2

N=2,669 Households

Table 8.5 provides a comparison of contacts in case of emergency by group membership. Column 1 shows, that households with at least one member of any group are significantly more likely (by 4.3 percentage points) to have at least one contact to turn to in case of emergency than households with no group membership at all. This might suggest that there is a correlation between formal and informal networks. Among households with membership in religious groups, informal networks seem to be the strongest, especially among relatives. Households with membership of a youth union are the most likely to have a friend or neighbour to turn to, both with almost 30 percent.

Table 8.6: Weddings and birthdays

	Share of HHs who attended at least one wedding last year (percent)	Number of weddings attended (median)	Share of HHs hosting a birthday party (percent)
Total 2016	97.1	15	4.8
Province			
Ha Tay	98.3	17	8.8
Lao Cai	99.0	10	2.9
Phu Tho	98.4	20	6.3
Lai Chau	89.5	9	0.0
Dien Bien	92.7	15	5.7
Nghe An	99.6	15	4.5
Quang Nam	95.7	15	1.5
Khanh Hoa	100.0	15	0.0
Dak Lak	98.7	15	8.2
Dak Nong	100.0	16	0.8
Lam Dong	100.0	15	1.3
Long An	93.9	10	3.5
Gender of HH head			
Female	96.2	12	3.8
Male	97.4	15	5.0
Food expenditure quintile			
Poorest	93.8	10	1.5
2nd poorest	96.3	13	1.9
Middle	98.3	15	3.7
2nd richest	98.9	18	6.2
Richest	98.1	18	10.5
Total 2014	98.2	12	4.5

N 2016 = 2,669 Households (N 2014 = 2,664 Households)

As another indicator for social capital, we look at participation in social events, namely weddings and birthday parties. As we can see in Table 8.6, in 2016, almost all households attended at least one wedding within the previous year. Male-headed households are a bit more likely to have attended a wedding. Across the socioeconomic groups, the bottom two quintiles are significantly less likely to have attended a wedding. While the upper three quintiles all have a share of more than 98 percent, for the bottom two quintiles, it is 93.8 and 96.3 percent respectively. The reason for that is most probably their limited economic resources. This becomes also evident, if we look at the other two columns. The median number of weddings that households attended is 18 for the two richer quintiles, while it is 14 for the second poorest, and only 10 for the poorest group. The last column shows the share of households who hosted a birthday party in the previous year. Less than 2 percent of bottom two quintiles did so. 6.2 percent of the second richest and as much as 10.5 percent of the richest quintile hosted a birthday party. This again shows that a lack of economic resources limits the ability to accumulate social capital.

In Table 8.7, we focus on political connections. These includes connections with people holding any office or other position of public responsibility in the commune or higher levels of government. As a connection to such a person can be beneficial in terms of knowledge, information or influence, it can been seen as a type of informal network and social capital (Markussen and Tarp 2014). Sometimes it is also referred to as political capital or linking social capital (Woolcock and Narayan 2000, Markussen 2015).

Table 8.7: Political connections

	Share of HHs where either a member of HH, a relative outside the HH, or a personal friend holds an office or position* (percent)	Share of HHs where any member of the HH holds an office or position* (percent)	Share of HHs where any relative outside the HH holds an office or position* (percent)	Share of HHs where any personal friend HH holds an office or position* (percent)
Total 2016	33.7	5.9	15.5	23.2
Province				
Ha Tay	25.8	3.6	13.8	13.8
Lao Cai	16.3	3.8	12.5	0.0
Phu Tho	31.8	7.1	18.2	17.6
Lai Chau	29.5	6.8	4.5	22.0
Dien Bien	44.7	10.6	13.8	41.5
Nghe An	58.9	8.0	40.2	41.1
Quang Nam	20.7	4.3	9.1	13.7
Khanh Hoa	31.8	5.6	0.0	31.8
Dak Lak	43.4	3.8	4.4	38.4
Dak Nong	51.1	11.3	26.3	39.1
Lam Dong	43.4	6.6	5.3	40.8
Long An	35.5	5.9	19.1	23.8
Gender of H head				
Female	30.6	4.5	15.5	19.5
Male	34.7	6.3	15.5	24.3
Food expenditure quintile				
Poorest	22.7	2.2	9.0	15.4
2nd poorest	29.0	3.6	14.0	19.1
Middle	35.2	5.2	16.3	26.0
2nd richest	41.3	8.4	18.5	28.6
Richest	40.4	10.0	19.5	26.9

N 2016 = 2,669 Households

Note: *Any office or other position of public responsibility in the Commune or higher levels of government.

Column 1 shows the share of households where either a member of the household, a relative outside of the household, or a friend holds an office or position as described above. In total, one third of the households have such a connection. Male-headed households are significantly more likely to have a political connection with 34.7 percent compared to 30.6 percent among female-headed households.

A strong positive correlation can be observed between political connections and income. Among the poorest quintile, 22.7 percent of the households have a political connection. For the two richer quintiles, it is more than 40 percent of the households. This correlation holds if we look at the different relationships households have to their political connection. Thus, having a household member, a relative outside of the household, or friend holding an office or position, is all more likely for households with higher income. Overall, 23.2 percent of the households have a friend holding an official office or position. 15.5 percent have a relative with an office, and 5.9 have such a person within their household.

Table 8.8: Position of political connection

Position of the political connection of a member, a relative outside, or a personal friend of the HH holds (percent)						
	District leaders	**District official**	**Commune leaders**	**Commune official**	**Mass organization leader**	**Other**
Total 2016	3.1	7.7	9.8	20.7	11.9	2.0
Province						
Ha Tay	1.0	4.7	4.7	15.2	9.3	3.1
Lao Cai	0.0	0.0	1.0	12.5	3.8	0.0
Phu Tho	5.3	7.9	13.4	15.8	7.4	2.1
Lai Chau	0.8	2.3	18.9	10.6	13.6	0.0
Dien Bien	3.3	8.9	17.1	35.0	22.0	2.4
Nghe An	9.4	26.8	14.7	31.7	13.8	4.0
Quang Nam	3.3	4.9	5.8	8.2	8.2	0.6
Khanh Hoa	0.9	0.9	9.3	20.6	21.5	3.7
Dak Lak	1.3	4.4	8.2	34.6	32.1	0.6
Dak Nong	2.3	11.3	22.6	42.9	11.3	0.8
Lam Dong	0.0	1.3	7.9	34.2	34.2	7.9
Long An	4.0	10.5	7.7	23.8	4.0	0.6
Gender of HH head						
Female	2.9	7.3	8.0	17.5	11.3	2.4
Male	3.1	7.8	10.3	21.7	12.0	1.9
Food expenditure quintile						
Poorest	1.1	2.1	6.2	14.8	9.0	0.9
2nd poorest	1.5	5.1	7.5	17.8	10.1	1.5
Middle	3.2	7.7	10.9	22.3	12.7	3.2
2nd richest	3.0	9.0	10.8	26.5	16.3	2.6
Richest	6.6	14.7	13.5	22.2	11.3	1.9

N = 2,669 Households

Table 8.8 provides more detail on the type of political offices or positions. Unsurprisingly, the higher the position and the administrative level, the less households have a connection to somebody holding this position (see columns 1 to 4). 20.7 percent of households have a connection to a commune official, while only 3.1 percent have a connection with a district official. 11.9 percent have a connection to a leader of a mass organization. If we look at the different income quintiles, we see again a gap between the poor and the rich households. This

gap steadily increases the higher the political position is. For offices on commune level or in mass organizations, richer households are twice as likely to have a political connection. On the district level, this ratio is six and seven times.

8.3 Information and trust

The two previous sections dealt with formal and informal networks as a form of social capital. This section focuses on households' sources of information, and on how much trust they trust these sources. Trust is a vital component of social capital. In the absence of formal rules or contracts, but also complementary to them, trust is an important determinant of social and economic development.

Table 8.9 lists several issues and shows how often the diverse sources of information are the first, second or third most important source of information for these issues. The four different issues are (i) agricultural production and extension, (ii) sources of credit and insurance, (iii) government policy changes, and (iv) market information such as jobs and prices of goods and crops.

Table 8.9: Source of information (percent)

	Agricultural production and extension	Sources of credit and insurance	Government policy changes	Market information - such as jobs and prices of goods and crops
Sources of information:				
Relatives, friends and neighbors	66.0	63.6	54.4	70.0
Community bulletin board	18.4	22.6	18.6	12.0
Community loud speakers	37.0	30.3	32.5	20.4
Local market	8.4	8.9	9.8	47.2
Newspaper	4.1	5.4	9.5	5.1
Radio	3.7	5.8	11.5	8.8
Television	42.5	49.6	74.1	59.1
Extension agents	27.7	9.5	6.0	6.8
Other groups or mass media	22.6	35.1	26.7	11.5
Business or work associates	0.3	1.2	0.3	1.2
Mobile phone	0.4	0.9	0.2	0.8
Internet	1.4	3.6	3.1	3.5
Other	1.1	2.2	1.3	2.2

N 2016 = 2,667 Households (N 2014 = 2,664 Households)

Overall, relatives, friends and neighbours, as well as the television are the most important sources of information. For issues (i), (ii) and (iv), relatives, friends and neighbours are the most important source of information with between 63 and 70 percent. For government policy changes, television is ranked as the most important, probably because government policy changes are broadcast on national television channels, while information agricultural

production or market information are more local in nature and thus are less present on television. Community bulletin boards, community loud speakers, and other groups or mass media have high values in all categories as well. Unsurprisingly, for market information, the local market is an important source, and for agricultural production and extension, extension agents are of high importance.

Other types of media, such as newspapers, radio, or the internet, but also mobile phones and business or work associates are of little importance for gathering information. For mobile phones, this might be explained by the fact that they are seen as a medium of information rather than a source. Thus, when a mobile phone is used to get information from a relative, the relative is seen as the source of information rather than the mobile phone itself.

Table 8.10: Sources of information considered mostly or highly trustworthy (percent)

	Relatives, friends and neighbors	Community board	Community loud speakers	Local market	Newspaper	Radio	Television	Extension agents	Other groups or mass orgs.	Business or work associates	Internet
Total 2016	95.2	97.8	97.0	46.2	67.6	85.3	87.7	93.0	67.8	63.3	28.5
Province											
Ha Tay	96.0	94.4	93.4	51.2	42.4	68.8	74.3	92.7	78.5	81.2	20.9
Lao Cai	100.0	98.1	98.9	83.7	18.8	87.7	94.8	95.7	92.0	80.0	47.4
Phu Tho	86.8	99.2	99.5	32.0	83.4	94.4	98.4	94.7	50.3	54.4	34.0
Lai Chau	97.7	95.5	97.7	81.1	95.2	94.0	94.6	90.0	85.9	88.0	80.8
Dien Bien	99.2	98.3	97.4	82.2	64.3	84.9	91.7	99.1	78.2	65.0	27.3
Nghe An	99.6	99.6	98.7	38.1	65.3	88.1	95.8	98.9	64.9	62.5	24.1
Quang Nam	90.9	99.1	98.2	36.9	71.7	94.6	95.6	91.2	42.7	37.1	15.0
Khanh Hoa	100.0	100.0	100.0	33.0	100.0	100.0	86.0	100.0	100.0	100.0	25.0
Dak Lak	93.7	96.2	94.3	11.9	67.8	79.0	75.3	90.7	75.9	70.2	9.7
Dak Nong	100.0	100.0	92.9	27.1	80.8	84.9	74.6	89.5	72.5	24.4	29.9
Lam Dong	100.0	100.0	100.0	32.0	87.7	92.2	73.6	98.3	91.1	100.0	22.6
Long An	96.6	99.1	98.8	66.8	75.7	90.7	94.9	87.9	67.6	62.8	43.3
Gender of HH head											
Female	95.4	98.0	97.6	46.1	70.2	85.5	86.7	92.2	67.7	59.2	26.6
Male	95.1	97.7	96.9	46.3	66.8	85.3	88.0	93.3	67.9	64.6	29.0
Food expenditure quintile											
Poorest	93.4	98.4	97.1	46.8	68.9	85.8	87.5	90.4	63.8	59.3	19.0
2nd poorest	97.4	97.2	96.4	43.5	70.6	85.5	87.0	91.2	68.7	65.9	31.5
Middle	95.3	98.3	97.4	44.3	64.3	83.8	85.2	93.3	69.0	64.9	23.9
2nd richest	95.1	97.9	97.9	46.1	62.4	84.3	88.1	93.9	67.0	62.3	23.9
Richest	94.5	97.1	96.4	50.5	72.5	87.3	90.8	96.1	69.8	63.7	37.8
Total 2014	92.8	96.4	95.8	50.3	70.8	85.6	91.3	91.6	67.7	55.8	39.8

N 2016 = 2,669 Households (N 2014 = 2,664 Households)

Table 8.10 shows the share of households that considers each source of information as mostly or highly trustworthy. Overall, the sources that are rated as the most important also enjoy a high degree of trust. Relatives, friends and neighbours, Community boards and loud speakers,

and extension agents are rated mostly or highly trustworthy by more than 90 percent of the households. Radio and television have high values too with more than 85 percent. The internet, as one of the least used source of information, is considered the least trustworthy, with only 28.5 percent.

The internet has also the largest variation if we consider the different provinces and socioeconomic groups. In Quang Nam 15.1 percent and in Dak Lak only 9.7 percent of the households perceive the internet as trustworthy, while it is 80.8 percent of the households in Lai Chau. Looking at income groups, the richest quintile trusts the internet significantly more than the poorest, with 37.8 compared to 19.3 percent. However, this trend is not monotonous, as also the second poorest quintile has a value of more than 30. It seems that it is especially the very poorest households who mistrust the internet the most. Also for most of the other sources, the richest households have higher trust than the poorest (again, without monotonous trends).

8.4 Summary

This chapter started out by giving information on different forms of informal and formal networks, followed by a section on information. All these are measures of social capital, or are related to social capital.

Overall, the availability of social capital in the sample is high. Almost all of the households know somebody to turn to in case of an emergency, attended at least one wedding in the previous year, and have a member of at least one formal group. About one third of the households has a connection to someone holding a public position or office.

What became clear from the results is that poorer households are clearly disadvantaged in terms of social capital. They are less likely to be members of most of the groups, attend fewer weddings, host fewer birthday parties, and are less likely to have political connections. They also have less trust in most sources of information. All this can partly be explained by the lack of economic resources needed for instance for membership fees or for hosting a birthday party. However, it might be that poverty is also a consequence of the lack social capital. Membership in groups and political connections could help to advance careers in the labour market, or as entrepreneurs, and thus to achieve a higher level of income.

Trust in sources of information is overall high, with the exceptions of the internet and local markets. Governmental and official sources of information, such as community bulletin boards, community loud speakers, and extension agents, enjoy the highest amount of trust. Also, radio and television are considered very trustworthy, perhaps because much the information

broadcast there comes from official sources or from state owned TV companies. For better or worse, the state has managed to use its quasi-monopoly on information to renders itself highly trustworthy in the eyes of most people in rural Vietnam.

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CONCLUSION

Sustained economic growth in Viet Nam over the last decade and the on-going process of structural transformation has led to significant improvements in the well-being of the people of Viet Nam (Tarp, 2017). Poverty rates have declined dramatically and continue to do so. This is also the case in rural areas. The VARHS 2016 confirms this trend with average incomes across the 12 VARHS provinces increasing beyond their 2014 levels. At the same time the proportion of households who are classified as poor has increased due to a shift in the official poverty line suggesting that more poor households are gaining access to government supports and services to help lift them out of poverty. Tarp (2017), however, highlights the fact that the fruits of Viet Nam's economic success story have not been shared equally among rural households with significant disparities in welfare and access to resources across different household groups. In this Report we document the fact that many of these disparities continue to persist in 2016 in rural areas in the 12 VARHS provinces.

Chapter 1 revealed that households in the mountainous Northern Uplands, Lao Cai, Dien Bien and Lai Chau, lag behind others on a number of indicators of welfare such as poverty mobility, access to health education and other services. Moreover, substantial differences continue to persist across ethnic groups and the gap between the poorest and richest households remains very large.

Chapter 2 focused on land markets and found that richer households are more active in the land market and are more likely to acquire land from the state. Poorer households have much less exposure to land markets and in general own less valuable land.

Chapter 3 highlighted disparities in the extent of commercialization of agriculture, which remains an important (although declining) component of income for most rural households. For example, farmers in Northern provinces are less commercially oriented than those in Southern provinces. In particular, in Dien Bien and Lai Chau fewer farmers use hired labour or buy fertilizer. It is also the case that richer households are more likely to be commercialized.

Consistent with the on-going process of structural transformation, the proportion of households involved in agricultural production declined even further between 2014 and 2016 and income from waged employment and household enterprises became even more important. Chapter 4 focussed on the importance of household enterprises, which absorb significant investments of time and money by rural households. Disparities along regional and ethnic lines are also highlighted in this chapter. The wealth of households, their education level and

ethnic status are strong predictors of the level of financial and time resources allocated to household enterprises and the extent of their returns. The Chapter concluded by highlighting the fact that the majority of enterprises operate on a small scale and are informal and so are unlikely to be responsible for significant job creation. This is concerning given the structural transformation process and the inevitable need for job creation in rural areas in the years to come. Related to this, chapter 5 examined migration trends, highlighting the importance of Ha Noi and Ho Chi Minh as destinations for migrants.

Chapter 6 focussed on access to credit and finds an overall decline in the extent of access to credit has decreased between 2014 and 2016, due to a decline in informal borrowing. Of particular note is the documented increase in access to credit for the poorest households and for ethnic minority households between 2014 and 2016. This is potentially a positive step in addressing some of the disparities in the distribution of resources within these rural areas.

Chapter 7 revealed that the incidence of shocks is also disproportionately borne by households that are worse off, in particular, those with less education and ethnic minorities. Moreover, poorer households typically rely on internal and informal risk coping mechanisms such as reducing consumption or relying on friends and family. Insurance is rarely used in the event of a shock suggesting a high level of exposure to uninsured risks. Chapter 5 also highlighted the role of remittances as a risk coping mechanism in presence of negative shocks.

Chapter 7 also revealed that savings devices are much more likely to be accessed by wealthier and more educated households. Most savings are precautionary and tend not to be used for productive and profitable investments, particularly for poor households and households of non-Kinh ethnicity.

It is clear from the findings of Chapter 8 that rural Vietnamese households are rich in social capital but, again, poorer households are clearly disadvantaged in this regard. They are less likely to be members of most of the formal socio-political groups, attend fewer weddings, host fewer birthday parties, and are less likely to have political connections.

The findings from VARHS 2016 show that the large gaps in development outcomes and access to resources between upland and lowland areas, and between members of the Kinh majority and other ethnic minority groups persist in 2016. Moreover, the gap in welfare outcomes between the richest and the poorest households remains large. To ensure that the economic successes of Viet Nam are shared equally, closing these gaps should be a major focus of Vietnamese policymakers in the years to come. Addressing these disparities and ensuring that the poorest and most vulnerable households are not left behind should continue to be an

important focus. It is therefore important for policy makers to avoid relying on the trickle down route and to instead place emphasis on clearly targeted interventions aimed at improving the welfare of the poorest and most vulnerable groups.