

Social Capital in Rural Areas of Vietnam and Its Impact on Households' Life Satisfaction

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Abstract

Using data of the Vietnam Access to Resources Household Survey 2014, with the participation of 3,648 households in rural areas of 12 provinces in Vietnam and two models: OLS regression and ordered logit, this paper studied the determinants of social capital in the rural area of Vietnam. Moreover, the paper also analyzed the impact of social capital on life satisfaction and risk coping strategies. Results of regression models confirmed that social capital is the essential ingredient for the life satisfaction of the community and at the same time, social capital also has notable impacts on households' post-risk recovery. In the relationship with the life satisfaction, all the variables representing social capital, except for general trust, positively affected the growth of life satisfaction of households, aside from physical factors such as income. Therefore, social capital, along with economic growth, was the biggest factor that can help households increase their life satisfaction.

Keywords: Social capital; bonding social capital; bridging social capital; linking social capital; life satisfaction.

1. Introduction

Social capital, in general, is a growing interest of both domestic and foreign researchers. However, social capital in rural areas of Vietnam, in particular, has not been a great concern until recently and should be studied further for the following reasons.

First of all, Vietnamese rural areas play an important role in the socio-economic development of Vietnam. According to the preliminary statistics of the General Statistics Office of Vietnam, there was 67.81% of Vietnam's population living in rural areas in 2013¹. Additionally, these areas directly affected the livelihood of nearly 50% of the Vietnamese population, who were working in the agriculture – forestry – aquaculture sector, as Vietnam is an agricultural country (Chi Trung, 2014). Such remarkable figures are reliable evidence, suggesting that changes in Vietnamese rural areas can have impact on most Vietnamese people as well as the socio-economic development of the country. Another notable point is that Vietnam is in the process of industrialization and modernization, aiming to enhance integration with countries all over the globe; hence, it is necessary to introduce suitable and transparent policies, which can be implemented easily, to develop rural areas in accordance with the predetermined plans and targets of the Government. Therefore, social capital in rural areas of Vietnam is a research topic that is worth taking into consideration since research results of this topic can support the development of Vietnamese rural areas in particular and the whole country in general.

Foreseeing the importance of studying social capital in rural areas of Vietnam, this study was

conducted to provide a closer look at the determinants of social capital and the influence of social capital on life satisfaction as well as risk coping strategies of households living in Vietnamese rural areas, using data from the 2014 Vietnam Access to Resources Household Survey.

2. Theoretical framework and literature review

2.1. Definition and types of social capital

2.1.1. Definition of social capital

Till now, there has not been any official definition of social capital, which is used in different researches. Parts (2008) presents a collection of different definitions for social capital that are mentioned in previous researches. Most of such definitions focus on the social relations that bring positive benefit to people involved in those relations (Claridge, 2004). Akçomak (2009) even finds a total of four similar points among social capital definitions as follows: (i) social capital is derived from social networks; (ii) social networks themselves are not social capital but they can be used to create social capital; (iii) individuals can invest purposely in social relations with expectation of future revenues and (iv) social capital may have positive as well as negative effects.

Besides, researchers also argue over whether social capital could be recognized as a type of capital or not. Some researchers think that social capital is similar to other kinds of capital as it can be invested with the expectation of future returns, and can be convertible and requires maintenance. Meanwhile, others believe that social capital is different from other forms of capital since social capital resides in social relations instead of individuals, like other types

of capital, and social capital can only be traded among individuals of the same groups rather than in open markets (Claridge, 2004).

Due to such ambiguity and uniformity, this study will not attempt to search for a perfect and comprehensive definition since it may not help to explain anything at all (Grootaert and Van Bastelaer, 2002). Instead, social capital will be put in a specific study context so that suitable indicators of social capital for each study subject, such as risk management, can be selected.

2.1.2. Types of social capital

There are different ways to classify social capital. For example, social capital can be put into different categories according to scope (at micro, meso and macro levels), forms (structure and cognitive) or different perspectives (communitarian, networks, institutional and synergy view) (Grootaert and Van Bastelaer, 2002). Following previous research such as Kearns (2003), Baum and Ziersch (2003), Aldrich and Meyer (2014), social capital in this study will be divided into three groups, which are bonding social capital, bridging social capital and linking social capital.

Bonding social capital includes close connections among individuals, who have close feelings or similarities in demographic characteristics, attitudes, resources and information, like friends and household members. Meanwhile, bridging social capital is used to describe social relations among acquaintances or individuals, who are not really close, through participation in a series of social groups ranging from political organizations and parent associations, to clubs for people having the same hobbies such as sports or entertainment.

These social relationships usually show a great diversity of demographics and resource provision as well as new information that could be taken advantage of to get promotion in society. Last but not least, linking social capital are social relations that help connect normal people with powerful ones in the society. Therefore, this type of social capital can be considered as norms of respect and networks of trusted relationships surpassing power in society.

Nevertheless, this study will only focus on two types of social capital bridging and linking social capital to analyze social capital, which is established based on relationships among people who are not family and close friends.

2.2. Determinations of social capital

The determinations of social capital can be divided into two main groups, which are a group of socio-demographic factors and a group of contextual factors (Parts, 2013). Accordingly, the first group consists of individual characteristics such as personal income, level of education, family, social status, personal experience and motivation to invest in social capital. Meanwhile, the latter one is a collection of characteristics related to the community and nation, such as the overall level of development, quality and equity of formal institutional, resources allocation, social polarization and forms of cooperation and trust. Parts (2013) inherits and develops his research based on the work of Kaasa and Parts (2008). In the study conducted by Kaasa and Parts (2008), determinants of social capital are not categorized clearly as in the study of Parts (2013), even though both of them use age, income, level of education, marital status, number of children, size of town and religiosity as independent

variables in their study models. Parts (2013) puts such characteristics into a socio - demographic group, except for size of town and religiosity, which together with satisfaction with democracy and individualism are classified as contextual factors. Kaasa and Parts (2008) study social capital in two dimensions. These consist of structural dimension (including formal networks (taking part in voluntary organizations) and informal networks (spending time with friends, colleagues)), and a cognitive dimension (including general trust (most people can be trusted/ help others), institutional trust (confidence in the policy, the government) and norms (cheating, bribes are not justified)). Parts (2013) removes informal networks out of the scope of the study and focuses on formal networks, general trust, institutional trust and norms.

Kaasa and Parts (2008) employ data of 31 European countries from the World Values Survey from 1999 to 2002. The structural model includes impacts of determinants on all five aspects of social capital for the whole sample and for each country. According to the results, determinants have different effects on each aspect of social capital and in general, aspects related to the cognitive dimension of social capital are less affected than that of structural dimensions. Moreover, religiosity has the greatest impact on social capital though it does not affect general trust. Meanwhile, Parts (2013) uses data of 45 countries in Europe from the European Values Study in 2008 and 2009. Results of pooled OLS regressions show that the level of education and satisfaction with democracy are the main determinants of social capital; hence, investment in education and improvements in

democracy may increase social capital. In addition, social capital also has positive relations with age, income and having children, while such relationships are negative when it comes to other factors like size of town and individualism (measured on a scale from 1 to 5 for the level of agreement with statement: “People should stick to their own affairs”).

New determinants of social capital are mentioned in the research of Markussen and Tarp (2014). They analyze the effect of political relations on land-related investment in rural areas of Vietnam. With data taken from the Vietnam Access to Resources Household Survey in 2008 and 2010, variables for having connection with public officials are established based on the answers of respondents to the question as to whether or not they have friends or relatives working in public offices. Respondents that have household members working for the Government are excluded. Accordingly, relationships with public officials, together with the number of groups that one participates in, are representative of social capital. The authors explain that one can gain or lose connections with public officials for two reasons. The first reason is that a relative of the household is promoted to be an official or leaves such a position. Secondly, a household may gain a new relative, who is a public official, through marriage, or lose such connection through divorce. Thus, they decided to add two more determinants in their study models, which are: holding weddings for household members and number of weddings attended. After running conditional and fixed effect logit regressions, they conclude that the number of weddings of other households that one attends is statistically significant and has a

major effect on the probability of having connections with public officials. Although they are aware that there might be reverse causality, meaning well-connected people will be invited to more weddings, and omitted variables, such as unobservable shocks or the status of the household's relatives, may have some effect on the number of weddings attended and the number of connections with public officials, the research results are still considered to be quite suitable for relations formed through marriage.

2.3. Social capital and life satisfaction

Nguyen (2013) states the satisfaction of human beings in terms of 4 different aspects, among which life satisfaction or long-term contentment in an individual's life is considered as the happiness of each individual by the author. Therefore, within the scope of this study, life satisfaction can be understood as happiness and vice versa.

Most of the research conducted to study the relationship between social capital and life satisfaction affirm the positive impacts of social capital on the level of people's self-evaluation regarding life satisfaction.

Realizing the decline in the average happiness level and social capital in the previous 30 years perceived by American people, Bartolini et al. (2007) carried out research aiming to explain the paradox of happiness with social capital. The paradox of happiness is explained as that the happiness level of residents in industrial countries does not increase when there is economic growth, although at any period of time people with higher incomes tend to consider themselves as happier than those with lower incomes. To reach this aim, Bartolini et al. (2007) exploit the data of 32 years (from

1972 to 2004) from the survey on the American society (US General Social Survey) with quite a few questions related to social capital and absolute income. Social capital in this paper is defined to be generated from non-market relations and the beliefs affecting the benefits from available resources. In other words, social capital is divided into two main types: "relational social capital" and "non-relational social capital". Regarding relational social capital, marital status, social relationships (whether there was a meeting with friends/neighbors at least once a month or not), trust in individuals and the membership in labor, educational organizations, parliament, army, state companies, banks and financial institutions are chosen as representative. Meanwhile, the happiness variable or the life satisfaction variable is the score given by the participants to their own happiness based on a 3-point scale: not happy (1 point), fairly happy (2 points) and very happy (3 points). Besides social capital, the authors also add socio-demographic factors: absolute income, relative income and time, as independent variables in their quantitative research to demonstrate the reduction in happiness during the studied period. With the application of the ordered logistic model, the authors run regressions in turn with socio-demographic variables, income, social capital and finally with all the variables. Then, they continue to run a logistic regression model or utilize the ordinary least squares (OLS) method to see the social capital trend in the studied time. The results reveal that the possession of social capital in general is equivalent to a high self-evaluation of happiness. Taking the social capital trend into consideration, they show that if social capital had

been maintained as it was in 1975, happiness would have probably increased instead of decreasing as in reality.

Reaffirming the positive influence of social capital on happiness was the result of research conducted by Mota and Pereira (2008), which aimed to study the possibility of the direct impact on happiness of social capital (measured by being a part of some institutions such as the elderly groups, women groups, sports and entertainment organizations) and the quality of governmental institutions, besides directly affecting economic activities (and indirectly affecting happiness). According to the authors, those with more social capital would interact more with others in a series of organizations and then develop confidential relationships, which aid to reduce transaction costs, improve governmental institutions and contribute to economic activities. Their research was conducted at two levels: an individual level (micro) and a national level (macro), using data that was mostly gathered from the World Values Survey and other sources like the Annual Macroeconomic Database by the European Commission and the Worldwide Governance Indicators of 32 OECD nations. With the dependent variables as happiness level or life satisfaction evaluated by individuals on the scale from 1 (dissatisfied) to 10 (satisfied), the researchers ran OLS regression to measure the impacts of personal characteristics related to material such as income, general demographic characteristics, quality of public institutions and social capital on the level of satisfaction. The result achieved at the individual level proves that participation in social organizations is in a positive relationship with the level of life satisfaction. Notwithstanding,

these impacts are not as prominent at a national level.

In addition, Kiani (2012) suggests that the happiness concept reflects harmonious social relationships. The data utilized in the paper was collected from a survey conducted in Iran from 2011 to 2012 with the participation of 350 people above the age of 18. The level of happiness was measured based on the construction of a happiness scale introduced by Oxford, where social capital is delineated as norms and networks providing the possibility of the participation in collective activities with profit purposes, which is normally measured by the social trust level and official or unofficial communication. By using multivariate regression and two-way analysis of variance, the author arrives at the deduction that social relationships would bring about life satisfaction, hence, maintaining happy social relationships is considered a basic need of human beings.

Most recently, Rodríguez-Pose and Von Berlepsch (2014) also investigate the relationship between social capital and happiness, (or in other words, life satisfaction), in Europe, in general, as well as in four vast geographical European regions including Northern, Southern, Eastern and Western Europe, in particular. From these investigations they retrieved data of 25 nations from the European Social Survey in 2006 and 2008, making 48,583 observations in total. Similar to previous studies, happiness as a dependent variable is constructed on an 11-point scale from 0 (extremely unhappy) to 10 (extremely happy) of the happiness level as perceived by the respondents. In terms of social capital, they develop variables representing social capital based on the synthesis of the social

capital definitions of Coleman, Paxton and Putnam. Accordingly, social capital could be demonstrated based on 3 criteria consisting of belief (social belief and institutional belief), information channels (or social activities, which could be divided into two main types: official type such as participating in voluntary, religion, party organizations and unofficial ones such as hanging out, meeting with peers and colleagues) and finally regulations and sanctions (like safety standards, evaluation of crime and burglary). In addition to social capital, they also add macroeconomic variables and demographic variables in their quantitative research model utilizing ordered logistic regression. Regarding Europe as a whole, initially they study the impacts of microeconomic variables and demographic variables on happiness. Then, they add other variables representing each criteria of social capital, and eventually they run the model with all the variables. Meanwhile, they only run one model for each European region to scrutinize the possible effects of geographical difference in the influence of social capital on happiness. The results once again provide readers with more reliable evidence concerning the positive impacts of social capital on happiness. Although three criteria of social capital were statistically significant, trust and informal social relations are considered to have the most remarkable impact on happiness. Moreover, when making comparisons among regions, they conclude that geographical position is a factor worth taking into consideration since the influence of social capital on happiness could be great in one region but much more humble in the other. In general, the influence of social capital on happiness is remarkably apparent.

In Vietnam, some research on social capital and life satisfaction has also been conducted. For example, Takahashi et al. (2011) study social capital and life satisfaction of people with musculoskeletal disorders in Hanoi from data collected themselves. Contrary to the aforementioned studies, the level of happiness or life satisfaction is measured based on a scale ranging from 1 (absolutely disagree) to 7 (absolutely agree) based on the responses of participants when being asked about 5 perceptions of their lives, according to which a continuous variable about the level of life satisfaction is constructed. Social capital in the study is measured based on a précis of a survey in England about social capital measurement tools with 5 questions about group participation, receiving subsidies from organizations as well as individuals, citizenship activities and social awareness. After controlling for the socio-economic and disability-related factors, the regression results show that joining two or more social organizations means higher life satisfaction, whereas, the influences of citizenship activities and social awareness on life satisfaction are below expectation.

Furthermore, Markussen et al. (2013) also carried out research, using data from the Vietnam Access to Resources Household Survey in 2012. A variable about life satisfaction is made based on a 4 point scale in accordance with the assessment of people about their own life satisfaction. Meanwhile, social capital is created by the official networks made up by participating in some organizations such as the Communist Party, essential formal groups namely the “Women’s Union, Farmers’ Union, Youth Union and Veterans’ Union” and unofficial

networks through attending weddings. Similar to previous studies, Markussen et al. (2013) also control demographic variables of households and household heads regarding age, sex, ethnicity, education, occupation, number of children, marital status, estate possession, migration, along with dummy variables about shocks that households are confronted with and provinces where households live. The evidence gathered after the regressing ordered logistic model reaffirms the positive effects of social capital on life satisfaction of households in rural areas, according to which the participation in the Communist Party had the most considerable positive impact. This study is one of the core references we use for our research as we employ the same source of data as they did in the Markussen et al. (2013) study, however, social capital variables in our research are different from those in that research. For example, instead of establishing dummies for participation in the formal groups mentioned above, we create variables based on the number of such groups that a respondent takes part in.

2.4. Social capital and risk coping strategies

According to Fafchamps and Lund (2003), there are a lot of risks that can occur in people's lives such as vagaries of health, plant disease, funerals, and risks that make households unable to recover with their income solely. This matter can be even worse for households living in rural areas since they always have to deal with severe risks, while their earnings are unstable due to the effect of weather change, crop pest and crop prices fluctuations (Kinsey et al., 1998).

Holzmann and Jorgensen (1999) and Skoufias (2003) classify methods of controlling risks

into three categories: prevention strategies, mitigation strategies and coping strategies. However, only coping strategies are analyzed in our study. Coping strategies within the scope of our study can be referred to as strategies used to cope with shocks or risks that have already happened. This is because risk is defined as a potentially dangerous event that may cause a loss in an individual's or household's welfare when it occurs; meanwhile, in the same vein, shock is defined as the actual occurrence of risk (Fischer and Buchenrieder, 2010). Therefore, whenever risk coping strategies are mentioned, it can also be understood as strategies to cope with shocks.

Regarding risk coping strategies, Holzmann and Jorgensen (1999) and Skoufias (2003) divide them into two groups in accordance with two ways of coping, which are formal and informal. The informal coping strategies include selling assets, borrowing from neighbors, receiving support from the intra-community or charity, reducing food consumption and migrating temporarily. Meanwhile, the formal strategies consist of selling financial assets, borrowing from financial organizations, receiving support, or social assistance, and taking part in voluntary work.

Nevertheless, only some of such strategies can be implemented in rural areas. Kinsey et al. (1998) believe that the credit and insurance markets do not exist or operate perfectly in rural areas; thus, rural households should develop other risk-coping methods. This is claimed to be true in Vietnam as Beuchelt et al. (2005) also confirm that there is still a lack of finance and agriculture extension services in rural areas, while shocks and crisis can disrupt

the households' lives for years, affecting their welfare and livelihoods, and leading to overexploitation of natural resources. In order to face up to such a situation, Beuchelt et al. (2005) think that households should make use of all five types of capital, which are natural, physical, human, social and financial capital. Among these, social capital is defined as community ties with friends and family members, or social networks in other words. The authors say that social networks become considerably important when it is not easy for poor and vulnerable households living in remote or rural areas of Vietnam to access knowledge, credit and insurance. Social capital can contribute to support households to cope with crises, ensure food security and it can even provide information for households such as information on agricultural technology. With data collected in the five villages of Yen Chau District, Son La Province (of the Upland Programs (Sonderforschungsbereich 564) of the University of Hohenheim) from April to July, 2004, the research concludes that social capital is an important means of coping with risks and social capital can be used to exchange information, especially information on farming. Besides, it also reveals that close relationships are the main factor in forming social networks while the wealth level can widen the social networks.

A study on risk-sharing networks in the Philippines by Fafchamps and Lund (2003) continues to confirm the positive effect of social capital on shock coping strategies, using data gained from three rounds of surveys with the participation of 260 rural households that were randomly selected in the Northern Philippines. Social network with friends and relatives (peo-

ple that can be relied on in case of difficulties) is also used as an indicator for social capital as in other researches. Meanwhile, strategies for coping with income and consumption shocks are gifts and informal loans, instead of formal loans from financial organizations. To test the effectiveness of these strategies under the effect of social capital, the study comes to the conclusion that risk-sharing is only available among friends and relatives and shocks are not always tackled effectively by gifts and informal loans. Furthermore, it is important to maintain the quality of social networks as households with a lot of wealthy friends can receive more gifts or are able to get a loan more easily.

Lu et al. (2008), meanwhile, have a different conclusion when studying the role of social capital in coping with risks (natural disasters, in particular) by maintaining consumption. Using data from the China Household Income Project 2002 rural survey, their quantitative research results show that civic participation and trust do not help households maintain consumption after natural disasters occur. Furthermore, the impact of social capital in risk-sharing reduces significantly when the level of marketization increases or formal institutions are more and more developed. However, they also state clearly that such a conclusion is the result of studying only three kinds of social capital and there is a possibility that other kinds of social capital may have the ability to serve as an informal insurance that support households to recover from natural disasters or to cope with other negative shocks such as diseases.

Aldrich (2010) and Aldrich and Meyer (2014) all highlight that social capital has a positive influence on recovery from natural

disaster. According to Aldrich (2010), social capital – networks and resources available to people – plays an important role right after the occurrence of a crisis (the emergency response phase) and during the long period of recovery afterwards. Social relations can act as informal insurance which does not require any premiums to get insurance as in market-based type of insurance. Instead, it can provide the beneficiaries with friends and neighbors who are willing to supply information, tools, shelter and support. Moreover, social capital also helps individuals to attract and control resources. Therefore, regions with a high level of social capital can successfully access and make use of loans, supplies and other resources. Additionally, social capital can even make residents of areas that are affected by natural disasters continue to stay there and contribute to the reconstruction and recovery of their living areas.

Aldrich and Meyer (2014) study the role of bonding social capital and bridging social capital. By reviewing previous research, they state that bonding social capital is the most popular type of social capital since household members are considered to be the first helpers whenever a member is in trouble. Simultaneously, a high level of bonding social capital means a high level of general trust and more widely shared norms; and communities with such features tend to have the ability to recover more quickly. Meanwhile, bridging social capital brings similar benefits to recovery in disasters as in the normal context since it usually provides opportunities and information useful for access to resources, which can assist the recovery, thanks to connections with organizations that are capable of providing support through different

channels or connections with individuals who do not belong to the same family. Although social capital can have a negative effect, the authors still conclude that social capital can be used to overcome shortages during recovery.

3. Data and methodology

3.1. Data

This study employs data of the Vietnam Access to Resources Household Survey, 2014, which had the participation of 3,648 households in rural areas of 12 provinces² in Vietnam. The ex-Ha Tay was the area with the largest number of households participating in the survey (569 households) as opposed to only 73 households living in Lam Dong Province that took part in the survey. However, 202 households were excluded from the sample of this study in order to avoid mixing the effects of different social relations, leaving a total sample of 3,446 households. Besides, the number of observations of some variables used in this study may be less than the total sample due to the lack of data of some households (Table 1).

The 2014 data is the most up-to-date data collected from the Vietnam Access to Resources Household Survey with more improved questionnaires than ones used before 2012. There are new questions relating to the perception of participants about issues in society and life in general. With such updated data, we hope that useful recommendations for policy improvements can be made based on the findings of this study.

Social capital

There are four variables that have been chosen as indicators for bridging and linking social capital in this study. The variable standing

Table 1: Variables and summary statistic description

| Variables | No.obs | Mean | Standard error | Min | Max |
|--------------------------|---------------|-------------|-----------------------|------------|------------|
| Age_HHhead | 3,446 | 51.38 | 14.14 | 18 | 100 |
| Ethnic | 3,446 | 0.65 | 0.48 | 0 | 1 |
| Male_HHhead | 3,446 | 0.79 | 0.40 | 0 | 1 |
| Education | 3,444 | 3.44 | 1.28 | 1 | 5 |
| Children | 3,446 | 0.60 | 0.49 | 0 | 1 |
| Num_mem | 3,446 | 4.43 | 1.88 | 1 | 14 |
| Single | 3,446 | 0.01 | 0.09 | 0 | 1 |
| Married | 3,446 | 0.81 | 0.39 | 0 | 1 |
| Widowed | 3,446 | 0.16 | 0.37 | 0 | 1 |
| Divorced | 3,446 | 0.02 | 0.13 | 0 | 1 |
| Separated | 3,446 | 0.002 | 0.05 | 0 | 1 |
| Poor | 3,438 | 0.20 | 0.40 | 0 | 1 |
| Income (000 VND) | 3,446 | 93,524.09 | 128,752.1 | -22,640 | 2,603,200 |
| Nonfarm_nonwage | 3,446 | 0.22 | 0.42 | 0 | 1 |
| Farming | 3,446 | 0.93 | 0.26 | 0 | 1 |
| Working_Wage | 3,446 | 0.66 | 0.48 | 0 | 1 |
| Num_groups | 3,010 | 1.85 | 0.87 | 1 | 6 |
| Num_wedding | 3,445 | 13.71 | 13.02 | 0 | 400 |
| Funeral | 3,446 | 0.96 | 0.19 | 0 | 1 |
| Relative_public_official | 3,446 | 0.19 | 0.39 | 0 | 1 |
| Friend_public_official | 3,446 | 0.30 | 0.46 | 0 | 1 |
| Trust | 3,236 | 0.87 | 0.33 | 0 | 1 |
| Life_satisfaction | 3,446 | 2.35 | 0.68 | 1 | 4 |
| Informal_saving | 3,441 | 0.07 | 0.26 | 0 | 1 |
| Formal_saving | 3,441 | 0.78 | 0.41 | 0 | 1 |
| Number_loan_rejected | 3,426 | 0.07 | 0.64 | 0 | 10 |
| Formal_loan | 1,207 | 0.71 | 0.46 | 0 | 1 |
| Informal_loan | 1,207 | 0.37 | 0.48 | 0 | 1 |
| Private_transfer | 3,446 | 0.56 | 0.50 | 0 | 1 |
| Public_transfer | 3,446 | 0.55 | 0.50 | 0 | 1 |

for bridging social capital is the number of organizations that households take part in since bridging social capital, as mentioned above, describes social relations established through participation in different social groups or organizations. There are 15 types of organizations such as the Party, Youth Union, Women's Union, irrigation cooperative, credit organization, sports club, etc. that are listed in the questionnaires for respondents to choose from. The number of organizations per household is based

on the aggregation of responses of each household member and it ranged from only one to six organizations. However, most of the households (80.37% of 3,010 households whose data was available) participated in one or two organizations while only a minority of them joined in six organizations.

Regarding linking social capital, there are three indicators that are dummy variables: having a relative who is a public official, having a friend who is a public official, and trust. This is

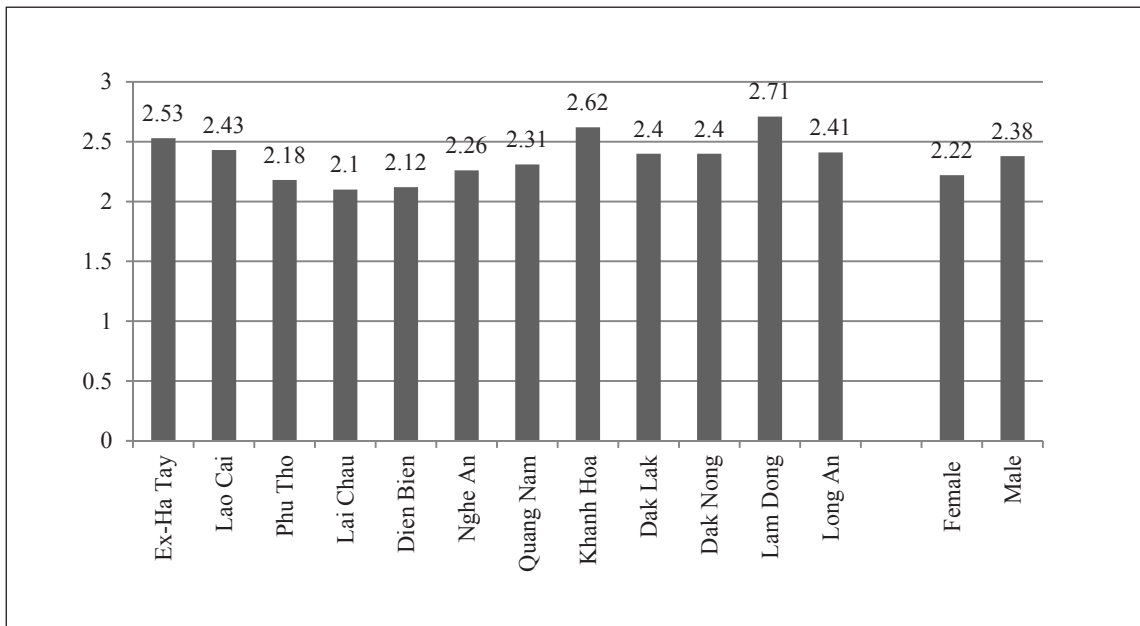
because linking social capital represents social relations among normal citizens and powerful people, which are established on the basis of trust. The dummy variable for trust has two values, 1 for “yes” and 0 for “no” as answers to the statement: “Most people in the commune are basically honest and can be trusted”. A majority of the households in the survey show there is trust in people living around them as the average value of trust variable is 0.87. The remaining indicators of linking social capital also have two values, 1 for “yes” and 0 for “no” as answers to the question: “Do any of your relatives outside this household/your personal friends hold any office or trusted positions in the Commune, or higher levels of Government?” Statistics of these two variables show that only a small number of households had relatives or friends holding a position in pub-

lic office. Another notable point is that households with a member who is a public official are eliminated to prevent mixing effects of having connections with public officials and being a public official (Markussen and Tarp, 2014). Thus, 202 households are excluded, leaving 3,446 households in the study sample.

Life satisfaction

In order to analyze the level of life satisfaction, a representative of each household, who tended to be the head of such household, was required to answer the question, “Taking all things together, how pleased are you with your life?” They were required to associate the numbers from 1 to 4 to the four possible answers given below. In the questionnaires, the higher the number, the lower the level of life satisfaction. However, while constructing the life satisfaction variable, to make it more con-

Figure 1: Average level of life satisfaction by provinces and gender (N = 3,446 households)



Source: Authors' analysis from data of the VARHS 2014

venient, the order is reversed so that a higher number will mean a higher level of satisfaction (1 for “not at all pleased with life”; 2 “not very pleased with life”; 3 “rather pleased with life” and 4 “very pleased with life”). The survey results reveal that the level of life satisfaction in rural areas was not very high since a vast number of respondents were not very pleased or not at all pleased with their life, which was 1.5 times higher than the percentage of those who were pleased or very pleased with their life.

Besides, when comparing the average level of life satisfaction of households among provinces of the survey, Lam Dong province was first with an average score of 2.71 out of 4, while arriving at the last place was Lai Chau province with only 2.1 points. However, this means that the average level of life satisfaction of households living in all 12 provinces only ranged from just over 2 to less than 3 points, failing to reach the “rather pleased” level. Moreover, comparison between the two genders shows that there was no considerable difference in the level of life satisfaction even though men tended to be more pleased with their lives than women (Figure 1).

Risk coping

In the Vietnam Access to Resources Household Survey, members of households that participated in the survey were asked about risks that the household had been dealing with during the last two years. There is a total of 3 groups of risks listed for the respondents, which are natural and biological risks (floods, droughts, typhoon and other natural disasters, pest infestation and crop diseases, avian flu), economic risks (change in crop price, shortage or changes in price of key inputs/services, change in

prices of food or other essential commodities consumed, unemployment, unsuccessful investment, loss of land, and crime) and risks occurring to family members (divorce, abandonment, or internal or extended family disputes, serious illness, injury or death of a household member). The survey results indicate that natural and biological risks are the most common type of risk that most of the surveyed households had to deal with (66.76% of 1,427 households), followed by risks occurring to household members with 25.85%. Nevertheless, not all households were ready to cope with risks.

Among households reporting risks, there were nearly 35% of them saying that they did nothing to cope with risks. Another popular coping strategy was reduced consumption (26.35% households suffered from risks). However, this strategy was not fully supported as it might lead to over-exploitation of natural resources in order to meet the demand for consumption (Beuchelt et al., 2005). Other potential strategies, which were also employed by a number of households, were using saved money (12.96%), receiving money or goods transfers (from friends, relatives, Government and non-government organizations) (7.71%) and loans (from banks and other sources) (5.04%). Therefore, among the series of risk-coping strategies, these three methods are selected as study subjects.

To construct savings variables, households were asked about the value of their savings 12 months ago and their methods of saving. According to data collected from the survey, there was an enormous gap between the largest (up to 1.8 billion VND) and the smallest savings amount (negative 10 million VND), which ac-

tually can be considered as a debt. Households' methods of saving are divided into two categories, formal and informal savings. Households had formal savings if they used the saving services of credit institutions like banks (for example: Vietnam Bank for Social Policies, Vietnam Bank for Agriculture and Rural Development, etc.) or postal savings. In contrast, households had informal savings if they took part in rotating savings and credit associations, kept cash/gold/jewelry at home or got benefit from being a private money lender. On such a basis, three savings variables were constructed, among which, two of them are dummy variables for methods of savings. Statistics show that a majority of surveyed households chose to have formal savings instead of informal ones.

Similar to savings, there are two main concerns about households' loans, which are the number of loans that were rejected during the last two years and the types of loans. Because most households participating in the survey were accepted to borrow money, this issue is not a great concern any more. Meanwhile, since there are obstacles to access to credit in rural areas, whether households had formal and informal loans should be taken into consideration. The two types of loans can be distinguished by the sources of the loans. If the loans were obtained from credit institutions as mentioned above or from mass organizations like the Women's Union, Farmers' Union, or Veterans' Union, such loans would be classified as formal loans. Meanwhile, if loans were obtained from friends, relatives or informal credit systems, they would be referred to as informal loans. As opposed to concern about the limitation of access to credit, data of the survey pro-

vides a brighter view on the access to formal loans of households in rural areas; especially since more than 70% of 1,207 households, whose data on loans was available, obtained formal loans.

Another coping strategy that is also included in this study is transfers received by households. There are two dummy variables standing for each type of transfer, private transfers (if households received money or goods from people that were not household members) and public transfers (if households received money or goods from the Government or non-government organizations). About 55% of households in the study sample received this kind of support.

3.2. Empirical models

3.2.1. Determinants of social capital

In order to study determinants of social capital, four models were constructed for four indicators of social capital. In the model where the dependent variable is the number of organizations that households participated in, OLS regression will be applied. The regression result will present which independent variables have influence and their impacts on the number of organizations households participated in. Meanwhile, logit regression and marginal effect will be applied for models with dummy variables (trust, having relatives/friends being public officials) as dependent variables.

Explanatory variables are divided into two groups, socio - demographic group and contextual ones, as in Parts (2013). The socio - demographic group consists of variables indicating characteristics of the head of household such as age, gender (having a value of 1 for male and 0 for female), ethnicity (having a value of

1 if the head of the household is a Kinh person and 0 if otherwise), educational level (having values ranging from 1 to 5 in accordance with the higher level of education³), children (having children under the age of 15 or not), a dummy variable for social status of the household (whether the household is classified as poor by the Ministry of Labour – Invalids and Social Affairs or not), and three variables for occupations of the household (farming, wage employment, self employment (non-farm and non-wage activities)). Since dummy variables for occupations of the household are the aggregation of information on employment of each household member, one household can be involved in more than one occupation. Accordingly, there was a majority of households participating in farming (92.54% of the total number of households in the survey). Nevertheless, there were remarkable differences in the income level of households. In particular, while the highest income of a household can reach up to 2.6 billion VND, there were households that had to survive with an income of approximately negative 23 million VND. The income of the household was calculated based on the total income of household members, including sales of assets, rental income, wages, private transfers, public transfers, and etc. The reason for having a negative income may be the fact that some households could not afford the necessary production or business costs as well as damages caused by risks with their own revenues solely.

The contextual group includes 12 dummies standing for 12 surveyed provinces so that all contextual factors that might have effect on households can be captured. Besides, a dummy

variable for taking part in funerals and a variable for the number of other households' weddings participated in by one household are also added to the models, with dummy variables of having relatives/friends being public officials as dependent variables in order to test whether attending events in villages/communes can establish political connections/linking social capital or not (Markussen and Tarp, 2014).

In short, the general forms of the two types of study models mentioned above could be described by the following equations:

- OLS regression model with the number of organizations that households participated in as dependent variable

$$Num_groups_i = f(socio-demographic\ factors_i, contextual\ factors_i) + u_i \quad (1)$$

- Logit regression model with dummy variables (trust, having relatives/friends being public officials) as dependent variables

$$P_i = f(socio-demographic\ factors_i, contextual\ factors_i) \quad (2)$$

In which, socio-demographic factors include variables related to age, gender, ethnicity, the educational level of the household's head, children, number of household members, income of household, status of household (poor or not) and occupations. Contextual factors consist of 12 dummies for the 12 provinces in the survey; u is error and p is the probability that dummy variables as dependent variables have a value of 1.

Among factors that are deemed to be determinants of social capital, income and education are considered as the two factors with the greatest impact, which is expected to be positive, on social capital. A higher level of education may

equip people with the necessary knowledge and communication skills to expand relationships; while income may partly be seen as the result of a high educational level, especially in Vietnam where certification or degree is insurance for most jobs. Besides, high income also provides people with opportunities to join in groups, organizations or events where they can meet more people and expand their social networks. Moreover, Helliwell and Putnam (1999) and Denny (2003) prove that a high level of income and education of individuals mean greater probability of having trust in each other and participating in organizations. If individuals are aware of the fact that a high educational level could make people become more trustworthy or have greater chance of being trust, they will in turn have trust in each other (Helliwell and Putnam, 1999).

Meanwhile, there are different views on the impacts of age on social capital. Glaeser et al. (2002) and Fidrmuc and Gërkhani (2004) are two researches proving that an increase in age has a negative effect on social capital. Glaeser et al. (2002) propose a hypothesis that networks will increase and then decrease as individuals grow older and older. Fidrmuc and Gërkhani (2004) also believe that old people often meet difficulties in joining social networks. In contrast, Whiteley (1999) thinks that old people are more trustworthy and cooperative since they were raised to adapt to less secure circumstances and it was necessary to rely on others. Furthermore, evidence from the research of Christoforou (2005) reveals that in Europe, unemployed people, who are either young or old, are able to become members of groups since they have more time (though less money) than

people who are employed.

Regarding gender, Christoforou (2005) proves that the level of civic participation in formal networks of women is lower than that of men. In addition, the empirical study of Parts (2013) also concludes that males tend to have more informal networks than females.

Although people usually think that marriage may reduce social capital since family life will take a lot of time, Christoforou (2005) and Markussen and Tarp (2014) come to a totally different conclusion. According to Christoforou (2005), marriage helps to increase the probability of being a member of a group or organization of both men and women. The positive impact of marriage on social capital is claimed again by Markussen and Tarp (2014) as marriage could help people gain political connections, such as having relatives/friends working for the Government.

Theoretically, similar to marriage, having children is also deemed to have a positive impact on social capital. However, its impact is uncertain (Parts, 2013). Having children may help individuals widen their social networks through meeting and exchanging information with other parents whose children also study at the same school with theirs. Nevertheless, there are responsibilities coming along with having children, which could reduce time for participating in groups or organizations. Moreover, a household with a lot of members is claimed to have a negative effect on all types of social capital (Fidrmuc and Gërkhani, 2004).

In addition, among occupations of households, farming is expected to have the most positive effect on social capital in rural areas as this is the main occupation of an enormous

number of households; hence, they are absolutely capable of connecting with each other through the exchange of farming experience and participation in the local Farmers' Union.

3.2.2. Impact of social capital on life satisfaction and risk coping strategies

Impact of social capital on life satisfaction

To analyze the impacts of social capital on life satisfaction, the dependent variable in this case will be the life satisfaction variable. Since the variable on life satisfaction has four values ranging from 1 to 4 with each value representing a level of life satisfaction, the higher the value, the higher the level of satisfaction, an ordered logit model will be applied. Following Bartolini et al. (2007), three ordered regressions will be used.

The first regression only contains socio-demographic variables as explanatory variables besides 12 province dummies to control for contextual factors since socio-demographic factors also contribute to a household's level of life satisfaction. The socio-demographic variables in this regression consist of those that appear in regression models for studying determinants of social capital and dummy variables related to the marital status of the head of household. By running this regression, we could examine the impacts of factors that are not related to social capital on life satisfaction of the surveyed. The second regression, on the other hand, only controls for social capital variables and contextual variables in order to see which type of social capital has impacts on the life satisfaction of households. The final regression is the aggregated regression of the two regressions mentioned above. The results collected from this aggregated regression will prove

whether social capital affects life satisfaction or not when socio-demographic and contextual factors have been controlled for.

The equation for the final regression is presented as follows:

$$h_i = h(\text{socio - demographic factors}_i, \text{contextual factors}_i, \text{social capital}_i) + u_i \quad (3)$$

In which, h is the life satisfaction variable having a value in accordance with the household's level of life satisfaction. Socio-demographic factors include all socio-demographic variables in equation (1) and marital variables. Contextual factors consist of province dummies, and social capital is a set of four indicators of bridging social capital (number of organizations that households participated in) and linking social capital (trust, having relatives/friends working for the Government). Function $h(\cdot)$ is a continuous non-differentiable function determining the connection between the actual and reported life satisfaction. The values of $h(\cdot)$ comply with the following rule: $h = 1$ if $h^* < c_1$, $h = 2$ if $c_1 < h^* < c_2$, $h = 3$ if $c_2 < h^* < c_3$, $h = 4$ if $c_3 < h^*$ (h^* in ordered logit model is a continuous, unmeasured latent variable and its values determine the values of observed ordinal variable (h) for some threshold values c_1 , c_2 and c_3). Lastly, u is error.

One limitation of ordered logit regression is that the results collected after marginal effect is applied could not be explained as in OLS regression. Therefore, only a conclusion on whether social capital affects life satisfaction or not and whether such impacts are positive or negative could be made.

Impacts of social capital on risk-coping strategies

Models used for studying impacts of social capital on risk-coping strategies are quite similar to the above models. Since most of the variables standing for risk-coping strategies are dummies and they are dependent variables in this case, a logit model with marginal effect will be applied. The independent variables are socio-demographic, contextual and social capital variables. Therefore, logit regression with dummies indicating risk-coping strategies can be described by the following equation.

$$r_i = f(\text{socio - demographic factors, contextual factors, social capital}) \quad (4)$$

In which, variables for socio-demographic and contextual factors are similar to those in equation 1; social capital is a set of variables as in equation 3; r is the probability that dummy variables as dependent variables indicating methods of saving, types of loans and transfers have a value of 1.

Since savings could only be used as a method of coping with risks if households have already thought and acted one step ahead of the occurrence of the risks, while people tend to get a loan or transfers after risks have already happened, the value of households' savings 12 months ago should also be taken into consideration as it represents the preparation or investment of households for the future. To study the impacts of social capital on the value of households' savings 12 months ago, an OLS regression model will be used. The dependent variable in such model is the logarithm value of such savings to prevent having miniature regression coefficients. The regression equation is as follows:

$$Y_i = f(\text{socio - demographic factors, contextual factors, social capital}) + u_i \quad (5)$$

In which, Y is the logarithm value of households' savings 12 months ago; socio-demographic factors, contextual factors and social capital consist of same variables as in equation (4); u is error.

4. Results

4.1. Determinants of social capital

For the model with the number of organizations that households attend as the dependent variable, the regression results reveal that most of the explanatory variables are statistically significant or in other words, most of them have impacts on social capital. In particular, after controlling for contextual factors with 12 dummies standing for 12 surveyed provinces, except for ethnicity and self employment (non-farm and non-wage activities), which are not statistically significant, most of the remaining independent variables appear to have a positive effect on social capital. Contrary to expectation, income and education are not the two most influential factors of social capital. Instead, farming is the greatest determinant as it helps to increase the number of organizations that farming households attend by 0.309 units, while the number of organizations only rises by 0.071 units under the effect of wage employment. Moreover, if the head of the household is male, the organizations' number of such a household will be higher than that of a household with a female head (the difference of 0.183 units). Similar to previous research mentioned above, age, educational level and income all contribute to increase the number of organizations that households attend. Thus, if a household is classified as poor by the Ministry of Labour –

Invalids and Social Affairs (MoLISA), such a household will join in fewer organizations than non-poor households do. Furthermore, having children under the age of 15 has a negative impact on social capital, probably because taking care of children may take up time that is supposed to be spent for participation in organizations or groups. However, since the number of organizations that households participate in is the aggregate number of organizations that each household member takes part in, and not all members of the household are under the age of 15, it is understandable to witness an increase in the number of organizations joined in with as the number of household members grows.

Moving on to the regression results of models with dependent variables as indicators of linking social capital, it can be easily seen that there are not as many factors having impact on linking social capital as bridging social capital. While age, farming and self-employment do not show any effect, if a household's head is a Kinh person, such a household is 7.4 percentage points less likely to have trust in others in comparison with household in which the head belongs to other ethnic groups. The reason for this negative impact might be the fact that households of other ethnic groups tend to live closely together since their ethnicity is not as popular as the Kinh group, making them know and understand well about people in the same ethnic group and therefore they could more easily have trust in others. Nevertheless, the ethnicity of the head of household does not affect whether the household has relatives/friends working for the Government or not. Similarly,

a household with a male head is 2.6 percentage points more likely to have trust in others compared to a household with a female head, while gender of the household head is not statistically significant in regression with political connections as dependent variables. In contrast, education has impacts on all three indicators of linking social capital. Accordingly, a higher level of education can increase the probability of trust by 1.23% and the probability of having relatives/friends working for the Government can increase the probability of trust by more than 2%. Having children under the age of 15, the number of household members and social status only affect the chance of having relatives who are public officials and among which, having children is the only determinant that has a positive impact since it could bring opportunities for the household to meet other families, whose members might work for the Government. Meanwhile, if the household is too poor and has too many members, they would spend all their time earning money instead of meeting others. Income shows its positive impact on the probability of having relatives/friends who are public officials, as a greater income provides conditions for household members to meet and connect with more people. However, since money may not buy people's trust, income appears to have no effect on trust.

Especially, the number of weddings that households attend and households' participation in funerals have a positive effect on households' political connections. In particular, households that attend funerals have more than a 10% higher probability to have relatives/friends working for the Government compared

to those who do not attend funerals. Meanwhile, the impact of weddings and the number of organizations in which households are involved is much smaller if households attend one more wedding. This will increase the chance of having political connections by under 0.4% and one more organization only means 1.8%, and 4.1% higher probability to have relatives and friends who are public officials, respectively. This is such an interesting finding since it proposes that attending funerals would bring more opportunities to get political connections than attending one more wedding or organization. This would probably be because people tend to share the same feelings for dead individuals and are more willing to open their hearts to overcome sadness. Thus, people could get closer to each other and have the chance to build up new relationships or meet distant relatives while attending a funeral.

Therefore, in general, socio-demographic factors have more impacts on bridging social capital than linking social capital. Income and education still appear to have a positive effect on social capital, while age, gender, having children and the number of household members show a different influence on each indicator of social capital.

4.2. Impacts of social capital on life satisfaction and risk-coping strategies

4.2.1. Impacts of social capital on life satisfaction

The results of three ordered logit regressions for studying the impacts of social capital on life satisfaction are presented in the Appendix (Table 3).

Regression 1 only controls for socio-demographic and contextual factors. As can be seen from the result, age, education and income have a positive effect on life satisfaction. In particular, the level of satisfaction tends to increase when the head of the household's age, level of education and income of the household go up. As money has always been a useful tool to satisfy the demand of people, it is understandable to witness an improvement in the level of satisfaction following a rise in income. People with a higher level of education may gain more necessary knowledge and skills to achieve their goals while the older people get, the more life experience they have, which makes them treasure what they have even more. On the other hand, factors having negative impacts on life satisfaction are: number of household members, being poor, farming and wage employment. In rural areas of Vietnam, people tend to have more and more children in order to increase the work force of the household, which leads to poverty and destitute lives, decreasing a satisfactory level of life. Besides, although farming is the main occupation of households living in rural areas of Vietnam, it can put people in risky situations because of its dependence on weather and nature and the dominance of dealers. The negative impact of wage employment is probably because the jobs are not suitable for household members or the wage they receive is not worth their contribution. Other socio-demographic factors do not seem to have an effect on life satisfaction.

Regarding the second regression, which is used to examine the effect of social capital on the life satisfaction of households, all four

variables representing social capital are statistically significant. While the numbers of organizations that households attend and having relatives/friends who are public officials have good impacts on life satisfaction, trust tends to reduce such impacts. As mentioned above, participating in organizations or having political connections may provide households with more support in difficult situations and useful information or reduce the transaction costs in life. A notable point that should be taken into account is that trust, theoretically, implies the willingness to help and rely on others, and have great attitudes with surrounding people, which are supposed to improve the satisfaction level but actually show a negative impact in this context.

The third regression consists of all socio-demographic, contextual and social capital variables so that we can check the robustness of the variables' impacts. The result is in compliance with the results of the above regressions, except for the impact of education, since it no longer has any impact on life satisfaction as in the above regressions. Social capital continues to have an influence on the life satisfaction of households.

4.2.2. Impacts of social capital on risk coping strategies

Savings

To study the impacts of social capital on using savings to cope with risks, we run three regressions with dependent variables, which are: the value of savings 12 months ago, formal savings, and informal savings of households. The results indicate that different indicators of so-

cial capital have different impacts on savings.

For OLS regression with the value of savings as the dependent variable, the result shows that except for having relatives who are public officials, the other three indicators of social capital all affect the value of the savings 12 months ago of households, and having friends who are working for the Government is the most influential factor.

Accordingly, if households attend one more organization, their logarithm value of savings 12 months ago will increase by 0.092 units, three times less than the rise in 0.312 units caused by having friends working for the Government. Trust shows its negative impact once again as it reduces 0.157 units of logarithm values of savings. This is probably because having trust in others makes households willing to lend money to others, reducing the value of their own savings. Besides, socio-demographic characteristics of households such as ethnicity, number of household members, social status, income and occupation, also have impacts on the savings of households. Among which, the numbers of household members and being classified as poor will reduce the logarithm of values by 0.048 and 0.399 units as opposed to an increase in the logarithm saving values under the effect of growing income. Moreover, as opposed to the negative impact of wage employment, self-employment also helps to raise the saving values as there are a lot of risks when doing business, which require back-up money for dealing with unexpected situations or making investment.

Regarding the types of savings, formal and informal savings are affected differently by in-

dependent variables. The most noticeable difference is that linking social capital does not have any effect on formal savings as it does in the case of informal ones, while bridging social capital influences both types of savings (attending one more organization will increase the probability of having formal and informal savings by 1.2% and 1.5% respectively). Linking social capital shows great impact on households' probability to choose formal savings by increasing such probability by 4.4% if the households' relatives are public officials, 6.6% if the households' friends are public officials and 9.6% if households have trust in others. Furthermore, both types of savings are influenced negatively by social status (being classified as poor reduces the value of savings) and positively by income.

Besides, while the selection of informal savings is not affected by any other factors, households with the head belonging to the Kinh ethnic group is 7.2% points more likely to choose formal savings and the probability of selecting formal savings will increase by 1.1% if the educational level of the head of the household increases by one level. Except for such a positive impact, the remaining variables that are statistically significant all contribute to decrease the probability of households having formal savings. To be more specific, the probability of having formal savings will go down by 1.2% if the household has one more member, 3.4% if the household is involved in farming, and 2% if the household's income depends on wage employment.

Loans

Different from savings, there are not many

independent variables that are statistically significant in the model studying selection between formal and informal loans. Regarding variables representing the social capital, the regression results show that the linking social capital (having relatives working for the Government) does affect the probability of having formal and informal loans, although the impacts are different. Having relatives who work for the Government helps households increase the probability of having informal loans by 10.4%, in contrast, it will reduce the probability of having formal loans by 8.8%. The number of organizations each household joins in does not affect the probability of having informal loans but it does help to raise the probability of having formal loans by 3.7%. Besides being affected by bridging social capital, formal loans are also under the reverse effect of having children under the age of 15 (households having children under the age of 15 are 6 percentage points less likely to have formal loans). Moreover, being classified as poor also has an impact on the probability of having either formal loans or informal loans. To be specific, poor households have a 12.7% higher probability of obtaining formal loans compared to non-poor households. Such an impact is even greater than the effect of social capital. However, poor households are 10.3% less likely to obtain informal loans, which almost eliminate the positive effect of social capital toward these types of loans. Such a situation may be because poor households may get more support when borrowing from the Government or credit institutions than from individuals. This fact seems to ease the concern that rural households cannot

access the credit market. Furthermore, another remarkable point is that income is statistically significant for informal loans but its impact is negative, which means, if the household's income increases by 1 unit, the probability of having informal loans will decrease by 4.2%.

Transfers

The influence of the two studied types of social capital on risk-coping strategies are different. The regression results show that only public transfers are under the influence of bridging social capital while private transfers are not. Households that join in at least two organizations will have a 5.5% higher probability to receive public transfers compared to other households. Regarding linking social capital, different variables also present different impacts. To be more specific, trust does not influence households' receipt of private transfers but helps to double the possibility to receive public transfers compared to the impact of bridging social capital (9.6%). Meanwhile, indicators presenting political connection show their positive influence on the possibility of receiving private transfers (if households have relatives/friends working for the Government, they will be 10 percentage points and 9 percentage points more likely to receive private transfers). This implies that having personal relationships with public officials will raise the possibility of receiving support from them instead of from the Government.

The age of the head of household and being classified as poor have positive impacts on both public and private transfers, however, these two factors play a more important role in receiving public transfers. If a head of a household is 1

year older than another head of household, this household will have 0.8% and 0.4% higher chance to receive public and private transfers respectively. In the meantime, households being classified as poor will have a 67.7% and 4.4% greater opportunity to receive public transfers and private transfers as opposed to non-poor households. Besides, the difference between the chances to receive public transfers for heads of households who are Kinh and those who are not is 20.7%, and households whose heads are not Kinh people have a greater advantage. Gender and education level of the heads of households also have effects on receiving private transfers. If the heads of households are male or have a high level of education, they will get less support. Moreover, occupation variables have a negative impact on receiving both kinds of transfers. To be more specific, if all members of the household are unemployed, the possibility of receiving support will be greater.

5. Conclusion

Using the data from the Vietnam Access to Resources Household Survey 2014, conducted in the rural areas of 12 provinces in Vietnam, this research studies two main problems, which are: the determinants of social capital in Vietnamese rural areas and the impacts of social capital on life satisfaction and risk-coping strategies, to meet the urgency for studying about social capital in rural areas of Vietnam.

Based on the results, some policy suggestions could be made to improve social capital in Vietnam rural areas. Most of all, we need to focus on investment, construction and infrastructure improvement in rural areas, such as schools, offices of Government agencies or

culture clubs to help create the chance to raise people's intellect and awareness of social relationships, to connect people and tighten the solidarity. As education has the largest impact on social capital in rural areas, it is necessary to invest in the construction of schools and vocational centers, which provide local children with knowledge and essential skills that will help them to find jobs with a reasonable wage and to have more time and money for socialization. Furthermore, children can also take part in the clubs and societies of schools, making stronger connections with their peers living in the same areas. Their parents also will get chances to know each other by attending parental meeting at schools, widening their social relations and somehow increasing their social capital. This will not only support to elevate the educational level of future heads of households, but also create opportunities for local people to strengthen their social capital. Besides, according to Aldrich and Meyer (2014), social capital, especially bridging social capital, can be enhanced by positioning community and architectural constructions as those communal spaces can affect the interaction among residents. Although it is a tradition to keep close relations with people in the same village in Vietnam, in this digital age, people spend more and more time for electronic devices and Internet rather than meeting others in real life. Hence, improvement in the conditions of cultural houses can play a crucial part to encourage villagers to join in meetings of groups and organizations like the Women's organization and Youth orga-

nization, and take part in training activities and discussion about traditional festivals or ways to cope with problems like disasters or pesticides. Transportation infrastructure, maintenance and development should also be taken into account, as it has important impacts on trading and cultural exchanges as well as relation establishment with other regions.

Besides, it is essential to strengthen the working ability of Government officials as well as the local authority to build people's trust, to create a close and firm relationship between officials, authority and local people, and to form a solid mass. As Government officials are the ones who propagate information and social campaigns from central to local levels, they must have a good understanding about such information and possess great communication skills to make local people understand important information well and encourage more and more people to take part in social activities. Furthermore, they also need to act professionally and be willing to provide help to citizens to solve any problems, especially when it comes to administration procedures, which are usually lengthy and complicated. Corruption and bribes are also a serious problem that should be eliminated as soon as possible, preventing putting people in unfair situations. Although the results of our research show that having relatives or friends working for the Government does not have any influence on the public transfers received by households, it is still crucial to monitor the process of allocating the Government's budget well.

APPENDIX

Table 2: Regression results for determinations of social capital

| Variables | (1) OLS Num_groups | (2) Logit + marginal effect Trust | (3) Logit + marginal effect Relative_public_official | (4) Logit + marginal effect Friend_public_official |
|------------------|-----------------------|--------------------------------------|---|---|
| Age_HHhead | 0.010*** (0.001) | 0.0003 (0.0005) | -0.0004 (0.0006) | -0.001 (0.0007) |
| Ethnic | -0.049 (0.05) | -0.074*** (0.025) | -0.029 (0.024) | 0.009 (0.026) |
| Male_HHhead | 0.183*** (0.04) | 0.026* (0.015) | -0.013 (0.02) | -0.009 (0.022) |
| Education | 0.087*** (0.015) | 0.0123** (0.006) | 0.022*** (0.008) | 0.026*** (0.008) |
| Children | -0.125*** (0.039) | 0.013 (0.015) | 0.033* (0.019) | 0.016 (0.021) |
| Num_mem | 0.079*** (0.011) | 0.002 (0.005) | -0.012** (0.006) | -0.0008 (0.006) |
| Poor | -0.091** (0.042) | -0.007 (0.017) | -0.068*** (0.023) | -0.018 (0.023) |
| Ln(income) | 0.095*** (0.021) | -0.005 (0.008) | 0.035*** (0.010) | 0.035*** (0.011) |
| Nonfarm_nonwage | -0.053 (0.038) | -0.003 (0.015) | -0.005 (0.018) | 0.002 (0.02) |
| Farming | 0.309*** (0.061) | -0.004 (0.021) | -0.039 (0.03) | -0.039 (0.035) |
| Working_wage | 0.071** (0.033) | -0.028** (0.014) | -0.002 (0.016) | -0.046*** (0.018) |
| Num_groups | | | 0.018** (0.009) | 0.041*** (0.009) |
| Num_weddings | | | 0.001** (0.0006) | 0.003*** (0.0008) |
| Funeral | | | 0.107*** (0.052) | 0.129*** (0.048) |
| Province dummies | Yes | Yes | Yes | Yes |
| Constant | -0.648*** (0.247) | | | |
| Observations | 2,998 | 3,222 | 2,998 | 2,915 |
| R-squared | 0.163 | | | |

*Note: Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1*

Table 3: Life satisfaction

| Variables | (1) | (2) | (3) |
|--------------------------|-----------------------|----------------------|----------------------|
| Age_HHhead | 0.015*** (0.003) | | 0.011*** (0.003) |
| Ethnic | 0.059 (0.118) | | 0.059 (0.130) |
| Male_HHhead | 0.110 (0.126) | | 0.0149 (0.144) |
| Education | 0.092*** (0.035) | | 0.057 (0.040) |
| Children | 0.078 (0.092) | | 0.068 (0.101) |
| Num_mem | -0.078*** (0.027) | | -0.081*** (0.030) |
| Single | 0.355 (0.878) | | 0.629 (1.001) |
| Married | 0.631 (0.803) | | 0.772 (0.906) |
| Widow | 0.143 (0.803) | | 0.307 (0.904) |
| Divorced | 0.175 (0.847) | | 0.525 (0.972) |
| Poor | -0.847*** (0.102) | | -0.884*** (0.115) |
| Ln(income) | 0.671*** (0.052) | | 0.633*** (0.058) |
| Nonfarm_nonwage | 0.0936 (0.0904) | | 0.031 (0.099) |
| Farming | -0.258* (0.144) | | -0.272* (0.164) |
| Working_wage | -0.295*** (0.0786) | | -0.350*** (0.088) |
| Num_groups | | 0.219*** (0.044) | 0.106** (0.048) |
| Relative_public_official | | 0.341*** (0.097) | 0.240** (0.100) |
| Friend_public_official | | 0.624*** (0.092) | 0.493*** (0.095) |
| Trust | | -0.204* (0.116) | -0.278** (0.119) |
| Province dummies | Yes | Yes | Yes |
| Constant cut1 | 5.350*** (0.977) | -2.724*** (0.175) | 4.551*** (1.108) |
| Constant cut2 | 8.635*** (0.985) | 0.300* (0.164) | 7.882*** (1.115) |
| Constant cut3 | 11.87*** (0.996) | 3.437*** (0.191) | 11.18*** (1.127) |
| Observations | 3,431 | 2,835 | 2,823 |

Note: Standard errors in parentheses

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

Table 4: Risk coping strategies

| Variables | (1) OLS | (2) Logit + | (3) Logit + | (4) Logit + | (5) Logit + | (6) Logit + | (7) Logit + |
|--------------------------|----------------------|----------------------|----------------------|---------------------|---------------------|----------------------|----------------------|
| | Ln(saving) | marfinal effect | marfinal effect | marfinal effect | marfinal effect | marfinal effect | marfinal effect |
| | Ln(saving) | Formal_saving | Informal_saving | Formal_loan | Informal_loan | Public_transfer | Private_transfer |
| Age_HHhead | -0.002 (0.002) | 0.0006 (0.0004) | 0.0002 (0.0006) | 0.0008 (0.001) | -0.002 (0.001) | 0.008*** (0.0006) | 0.004*** (0.0008) |
| Ethnic | 0.228*** (0.087) | 0.072*** (0.022) | -0.0008 (0.024) | 0.064 (0.044) | -0.047 (0.045) | -0.201*** (0.023) | 0.019 (0.029) |
| Male_HHhead | 0.095 (0.069) | -0.008 (0.012) | -0.010 (0.019) | 0.037 (0.039) | -0.051 (0.042) | -0.024 (0.019) | -0.074*** (0.024) |
| Education | 0.042 (0.026) | 0.011* (0.006) | 0.003 (0.008) | 0.019 (0.014) | -0.019 (0.015) | -0.012 (0.008) | -0.017* (0.009) |
| Children | 0.046 (0.067) | 0.004 (0.012) | 0.003 (0.019) | -0.060* (0.036) | 0.021 (0.037) | 0.020 (0.019) | 0.002 (0.023) |
| Num_mem | -0.048** (0.020) | -0.012*** (0.004) | -0.008 (0.006) | 0.005 (0.010) | -0.003 (0.011) | 0.007 (0.006) | -0.017** (0.007) |
| Poor | -0.399*** (0.073) | -0.049* (0.027) | -0.077*** (0.021) | 0.127*** (0.041) | -0.103** (0.042) | 0.676*** (0.057) | 0.044* (0.026) |
| Ln(income) | 0.732*** (0.037) | 0.070*** (0.007) | 0.073*** (0.011) | 0.023 (0.020) | -0.042* (0.021) | -0.003 (0.011) | -0.008 (0.013) |
| Nonfarm_nonwage | 0.244*** (0.066) | -0.004 (0.011) | 0.025 (0.019) | -0.009 (0.035) | 0.016 (0.037) | -0.045** (0.018) | -0.011 (0.022) |
| Farming | -0.101 (0.107) | -0.034** (0.016) | 0.021 (0.027) | 0.036 (0.10) | 0.045 (0.111) | -0.059** (0.029) | -0.074* (0.039) |
| Working_wage | -0.297*** (0.058) | -0.020* (0.011) | -0.014 (0.017) | -0.015 (0.032) | 0.011 (0.033) | -0.039** (0.016) | -0.046** (0.020) |
| Num_groups | 0.092*** (0.032) | 0.012** (0.005) | 0.015* (0.009) | 0.037** (0.018) | -0.017 (0.018) | 0.056*** (0.008) | 0.016 (0.011) |
| Relative_public_official | 0.015 (0.067) | 0.003 (0.012) | 0.044** (0.021) | -0.088** (0.034) | 0.104*** (0.037) | 0.010 (0.019) | 0.100*** (0.023) |
| Friend_public_official | 0.312*** (0.063) | 0.005 (0.011) | 0.066*** (0.019) | 0.040 (0.035) | -0.011 (0.037) | 0.010 (0.018) | 0.090*** (0.021) |
| Trust | -0.157** (0.079) | -0.013 (0.013) | 0.095*** (0.021) | -0.018 (0.049) | -0.024 (0.051) | 0.091*** (0.022) | 0.034 (0.027) |
| Province dummies | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Constant | 0.312 (0.437) | | | | | | |
| Observations | 3,431 | 2,835 | 2,823 | 1,024 | 1,024 | 2,823 | 2,823 |
| R-squared | 0.300 | | | | | | |

Standard errors in parentheses, *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Notes:

1. See at https://www.gso.gov.vn/default_en.aspx?tabid=774
2. Ex-Ha Tay, Lao Cai, PhuTho, Lai Chau, Dien Bien, Nghe An, Quang Nam, KhanhHoa, DakLak, DakNong, Lam Dong and Long An.
3. 1 for cannot read or write; 2 for can read and write but never going to school; 3 for primary level; 4 for secondary level; 5 for post-secondary level.

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