VARHS 2012 In-Depth Study:

Economic Development and Subjective Well-Being. Evidence from Rural Vietnam

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November 2013

First Draft

1. Introduction

Analyses of economic development often focus on objective measures of welfare, such as consumption or fulfillment of "basic needs", such as food, shelter and security. In recent years, however, measures of subjective well-being, or happiness, have gained increasing attention.[1] The vast majority of academic papers on happiness focus on developed countries.[2] In contrast, this paper studies the determinants of subjective well-being in rural Vietnam. To our knowledge, this is the first quantitative study of happiness in Vietnam.

Vietnam is undergoing a process of fast, economic development. This process not only entails rising income. Rather, it changes life circumstances for ordinary Vietnamese in a vast number of ways. Profound changes affect, inter alia, the occupational structure, gender roles, family structure, health outcomes, education, migration, and the nature of social networks. This paper investigates the relationship between subjective well-being and the different dimensions of economic development, using data from a rural household survey in 12 provinces of Vietnam. The aim is not to question whether economic development in general is beneficial (we think it is), but rather to investigate whether some dimensions of development are more important for subjective well-being than others. Some aspects of development may well be detrimental to happiness (for example, increased geographic mobility means that parents see their grown-up children much less in more developed than in less developed societies).

Results show, first, that levels of subjective well-being in rural Vietnam are surprisingly low. 48 percent of respondents report being "not very" or "not at all" pleased with their lives. Second, the effects of economic development on subjective well-being are ambiguous. Improvements in health and education have significant, positive effects on happiness. On the other hand, working for a wage is associated with substantially lower subjective well-being than working on a family farm, conditional on income. There is a strong correlation between income and happiness, but this may be driven more by relative- than by absolute income. Therefore, the direct effect of aggregate income growth on happiness may be weak. In general, results are well in line with those from countries with entirely different cultures and levels of economic development. This supports the view that the values of rural dwellers in Vietnam are in many ways the same as those of people in advanced economies on the other side of the Earth.

[1] We use the terms subjective well-being, happiness, and life satisfaction interchangeably.

[2] See e.g. Khanemann and Deaton (2011); Layard (2006); Layard (2005); Diener (2000); Veenhoven (2005); Clark and Oswald (1994); Blanchflower and Oswald (1994). The relatively few papers focusing on developing countries include among others: Deaton (2008); Graham and Petinatto (2002); Graham (2005a); Graham (2005b); Knight and Gunatilaka (2010).

The paper is organized as follows: section 2 presents definitions and measures of subjective well-being. Section 3 explores the literature on economic development and subjective well-being. In section 4 we describe the data set in detail. Section 5 presents the variables used and descriptive statistics are provided in section 6. Section 7 presents the results and section 8 concludes.

2. Defining and measuring subjective well-being

Subjective well-being has been studied by scholars from a number of different fields including psychology, sociology, and more recently economics. As a consequence thereof, several measures and definitions of subjective well-being exist (Diener 1984, Veenhoven 1984).

Diener (1993) suggests that subjective well-being should be defined by being: (1) subjective to the individual, (2) measuring not just the absence of negative feelings but also the presence of positive emotions, and (3) a global assessments of life domains as a whole. Veenhoven (1984) defines subjective well-being as: "the overall judgment an individual makes of her or his life". Andrews and Withey (1976) describes subjective well-being as a cognitive evaluation combined with some degree of positive and negative feelings (current mood). The latter definition stresses that individuals use both feelings and thoughts to assess their lives (Veenhoven, 1984; Andrews and Withey, 1976).

The most common way of measuring well-being is through surveys. Survey questions vary along two dimensions. First, some questions ask the respondent for a general evaluation of his or her well-being, for example "In general, how happy would you say that you are these days", while other questions collect information on the experience of negative and positive feelings (e.g. feeling stressed or feeling proud) in the recent past. The former questions are said to measure "life evaluation", while the latter measure "emotional well-being", see e.g. Khanemann and Deaton (2010). Second, happiness is sometime measured with a single, overall question (single-item measure), and sometimes with an index of answers to questions about life satisfaction in different life domains, such as occupation and marriage (multiple-item measure).

Non-self-report techniques have also been applied especially by psychologists. The methods include informant reports from friends and family and laboratory data on facial expression, genuine smile, and vocal tone. Costa and McCrae (1988) and Sandvik et al. (1993) find that non-self-report measures and self-reported measures of subjective well-being correlate quite strongly. This suggests that both types of measures are valid in terms of evaluating well-being among individuals.

The measure applied in this paper is collected in a survey, described in detail below, and belongs to the category of single-item measures of life evaluation. In particular we ask "Taking all things together, would you say you are.. 1) Very pleased with yours life; 2) Rather pleased with your life; 3) Not very pleased with your life; 4) Not at all pleased with your life" (respondents choose one answer).

The question is closely related to the question developed and used by Gurin et al. (1966) to evaluate mental well-being in the United States.[3] A strong advantage of the single-item approach, as opposed to multiple-item measures, is reduced cultural sensitivity (Veenhoven, 1984). For instance the importance of being satisfied with life domains such as work or marriage will vary greatly across cultures and over time, implying that the appropriate weights for different items also vary.

3. Potential effects of development outcomes on life satisfaction

As discussed above, the process of economic development leads to changes in many dimensions of life. How should we expect these different dimensions to affect subjective well-being? We discuss the different dimension of development in turn.

Income. Rising levels of income is a defining feature of economic development. Income per capita has increased several-fold in Vietnam in recent decades and even if growth rates are currently somewhat lower than in the past, they are still robustly positive. The effect of income on happiness has been intensely studied in a number of papers but conclusions are still somewhat ambiguous. Central to the debate is whether it is absolute or relative income that best explains variation in subjective well-being. The relative income hypothesis was advanced in a seminal paper by Easterlin (1974), which investigates the relationship between happiness and income within and across a number of countries in different parts of the World. Within countries, Easterlin finds a statistically significant relationship between income and happiness. Yet when examining the relationship across countries a similar relationship does not emerge. These contrasting findings are known as the "Easterlin paradox". Easterlin (1974) concludes that happiness is *relative* (we compare ourselves with people similar to ourselves). Opponents of the relative income hypothesis include Hagerty and Veenhoven (2003) and Stevenson and Wolfers (2008). These papers present empirical evidence that increases in absolute income for individuals, as well as for countries as a whole, have a

[3] The original question asked by Gurin et al. (1966) was: "*Taking all things together, how would you say things are these days?"* The question allowed three answer categories: "very happy", "pretty happy" and "not too happy". The validity and reliability properties of the Gurin scale and other measures of subjective well-being is investigated in Larsen et al. (1985).

significant positive effect on happiness. It is argued by Hagerty and Veenhoven (2003) and Stevenson and Wolfers (2008) that absolute income has a stronger role in explaining observed variation in happiness compared to relative income. Cross-section studies generally find a positive income-happiness relationship, however, results differ as different data sets are applied. Country-level time-series studies do not always find a significant absolute income and happiness relationship. In the United States for example life satisfaction has decreased over the past three decades despite a rise in average income per capita (see e.g. Blanchflower and Oswald, 2004).

Veenhoven (1991; 1995) argue that increases in income only affect subjective well-being in developing countries, where increases in income help individuals meet their basic needs for food, shelter, clothing and other essentials. Diener and Oishi (2000) use data from the World Value Survey (WVS) covering 22 developed and developing countries to investigate the difference between subjective well-being of the richest and the poorest groups within nations and find that income does indeed explain a substantial part of the variation in subjective well-being among individuals. Deaton (2008) makes use of a larger sample of 121 countries from the Gallup World Poll to explore among other things the relationship between income and happiness. Similarly to Diener and Oishi (2000), Deaton (2008) finds a strong relationship across countries between national income and average level of life satisfaction.

Occupation. Another stylized element of economic development is a secular shift in the sectorial and occupational structure of the economy. In terms of occupation, large shares of the population typically move from self-employment in agriculture to wage work in industry or services. In Vietnam, this process is ongoing. The implications for subjective well-being are ambiguous. If job security is reasonably high, working for a wage often increases the stability and predictability of the income stream, which may increase well-being. On the other hand, working for a wage also tends to imply a loss of autonomy. While many papers have focused on the consequences of unemployment for subjective well-being (see e.g. Di Tella et al,. 2003; Layard, 2005; Blanchflower and Oswald, 2000; Clark and Oswald, 1994; Winkelmann and Winkelmann, 1998), relatively few studies have focused on different types of occupation. Further, the literature has mainly focused on Western countries.

Kornhauser (1965) studies mental well-being among workers in the manufacturing sector in the United States. Results show that the mental well-being of workers is dependent on the skills that the worker possesses. Skilled workers are found to have a higher mental well-being whereas unskilled workers report the lowest level of mental health. Alongside Kornhauser (1965), Argyle (2007) finds that job satisfaction in the United States is higher among professional workers such as lawyers and scientists. Managers and administrators also report a high job satisfaction, while, the lowest level of job satisfaction is seen among

unskilled workers. Layard (2005) finds that having a secure job has a strong positive effect on happiness (using data from the German Socio-Economic panel).

Alesina et al. (2004) find a positive effect from being self-employed in the United States, yet, the effect is only positive among the relatively well-off. Frey and Benz (2008) also study the effect of being self-employed using panel data from Germany, Britain, and Switzerland. It is found that those self-employed have a higher level of job satisfaction (controlling for income, working hours, and other background characteristics). This, the authors hypothesize, is due to a larger degree of freedom and no hierarchy at the work place. Moreover, results show that individuals working in smaller firms are more likely to report a higher level of job satisfaction due to the same factors that cause self-employed to be more satisfied.

Results on occupation and subjective well-being in developing countries are rare. Findings from Latin America and Russia by Graham (2005a) show that the relationship between employment status and happiness differ. In Russia, self-employed people are on average happier, whereas, in the Latin American countries self-employed individuals are less happy. Graham (2005b) argues that self-employed in Latin America are less happy than others because self-employment is less of a choice in Latin America than in other places. Graham and Pettinatto (2002) use data from 17 Latin American countries and show that being self-employed has no significant effect on happiness when belonging to the wealthiest group. Nevertheless, for respondents in the middle and poor categories the effect from being self-employed is significant, and negative. None of these studies distinguish between self-employment in agriculture and in other sectors.

Landlessness. Partly as a corollary of the sectorial shift from agriculture to industry and services, economic development tends to be accompanied by the concentration of agricultural land in fewer and larger holdings. Therefore, the share of households without agricultural land tends to increase. This process is also taking place in Vietnam, especially in the Southern lowlands. In agriculture based societies, land is a key source of both, income, risk coping, prestige, and identity. Therefore, it is quite conceivable that the loss of land may have negative, psychological consequences, especially among households that remain in rural areas after losing their land.

Education: Another standard component of economic development is improved access to education. Vietnam has already experienced huge increases in school enrolment and literacy. The effects of education on life satisfaction are ambiguous. Several studies have looked into the relationship between education and happiness (see e.g. Hartog and Oosterbeek, 1998; Peiro, 2006; Stevenson and Wolfers, 2009). The majority of studies find a positive effect of education on happiness (Di Tella et al., 2001; Layard, 2005; Becchetti et al., 2006; Hayo and Seifert, 2003; Castriota, 2006). Education may influence subjective well-being through

different channels such as offering an interesting occupation (Blanchflower and Oswald, 1994) or by having a positive effect on health (Hartog and Oosterbeek, 1998) as well as better marriage opportunities (Hartog and Oosterbeek, 1998). Nevertheless, insignificant results of education's effect on happiness have been reported by Inglehart and Klingemann (2000). Clark and Oswald (1996) find a negative relationship between education and happiness. According to the authors the negative relationship is caused by educated people having higher job aspirations that are more difficult to fulfill. In addition, the better educated also have higher expectations in terms of income. This is supported by the fact that unemployed individuals with a higher education report lower levels of subjective well-being compared to the lesser educated unemployed. Further, Witter et al. (1984) find that education account for just one to three percent of the variance in subjective well-being in the United States.

Health: Another important consequence of economic growth, especially at early stages of development, is improved health outcomes. One of the most robust findings in the literature on subjective well-being is the strong effect of health status on happiness. Some studies, such as Brickman et al. (1978), argue that the effects of negative health shocks on subjective well-being are only temporary. However, many papers report lasting and significant effects of ill health on happiness. For example, a careful study on health and life satisfaction by Mehnert et al. (1990) find that people with a disabling condition have significantly lower life satisfaction than a control group of nondisabled individuals. Panel data results from Germany and Britain presented in Helliwell, Layard and Sachs (2012) show a strong positive relationship between good health and subjective well-being. A potential, methodological problem is that health is typically measured subjectively. This might lead to a bias in estimates of the relationship between happiness and health if less happy people over-report ill health or the opposite (Helliwell, Layard and Sachs, 2012).

Fertility: At some point, economic development almost always leads to declines in fertility. Vietnam has actively promoted this process with the use of a "two-child" policy, although this rule has been implemented less strictly in rural than in urban areas. The effect of children on subjective well-being is ambiguous. Khanemann and Deaton (2010) find a negative effect of young children on emotional well-being in the United States. Having children at home is associated with a higher level of stress and worry. This relationship is also reported in other studies using data from Europe and the United States (see e.g. Layard, 2006; Clark et al., 2008; Blanchflower and Oswald, 2008). Meanwhile, other studies also find that children's age matter. Having young children and teenagers are associated with lower level of happiness, whereas, children aged three to twelve are associated with a higher level of happiness (Margolis and Myrskylä, 2012; Helliwell and Wang, 2011).

Family structure: In most countries, economic development has been accompanied by a rise in divorce rates and in the share of unmarried adults. A quite robust finding in the literature on happiness is a positive effect of marriage on subjective well-being. This effect might be especially important in rural Vietnam where traditional family values are strong. Knight and Gunatilaka (2010) study subjective well-being in China using a national household survey. They find that being married has a significant, positive effect on happiness in rural China, while divorce and widowhood has a significantly negative impact. Helliwell, Layard and Sachs (2012) have reviewed several studies that investigate the relationship between happiness and marriage. All studies reviewed, across Europe, the United States, Asia, Russia, and Latin America, show that married people are happier than those divorced, single or widowed.

Migration: Economic stagnation may be a reason to migrate to other regions or countries, for example to find jobs. In general, however, economic development goes hand-in-hand with increased geographical mobility. The effects of moving on subjective well-being are ambiguous. On the one hand, increased mobility improves the possibilities of finding meaningful and profitable employment. On the other hand, it also tends to weakens ties with family members and friends. While migrants and their mental/physical health has been widely studied, fewer studies have looked at migrant's subjective well-being. This is primarily due to a lack of data on migrants level of well-being before and after migrating. De Jong et al. (2002) find that internal migrants in Thailand were less satisfied with their lives after migration. The fall in life satisfaction is attributed to a decline in satisfaction with the living environment. Among Indian migrants in Canada life satisfaction is to a large degree determined by comparison with significant other people from the migrant country and with feelings of success or failure in the ability to raise children better in the host country. Unsurprisingly, a discrepancy between expectation at the time of migration and achievements post-migration is also highly associated with a lower satisfaction with life (Vohra and Adair, 2000). Knight and Gunatilaka (2010) find that migrants from rural China living in urban areas report a lower average score of happiness as compared to rural households. The authors argue that this is due to unrealistic expectations of urban life before migration, a shift in reference group after having migrated, and changes in living circumstances. The results are supported by findings from Latin America and Russia by Graham (2005b) suggesting that urban dwellers are more likely to have a lower level of well-being. This is explained by the fact that urban migrants are more likely to be aware of others' wealth (social comparison).

The literature on migration and subjective well-being has mainly focused on the migrants. However, a few studies have also looked into the well-being of the family members left behind. Gartuala et al. (2012) study the subjective well-being of women with an out-migrating husband in Nepal. It is found that while income has increased among the wives the impact on their subjective well-being is ambiguous. Based on qualitative

interviews the authors note that wives from poor households were more satisfied with their life (after the husband migrated) than women from richer households. This is likely because poorer households benefit more from having basic needs met. Abas et al. (2009) study the well-being of ageing family members left behind by out-migrating children in Thailand. Outmigration of all children compared with outmigration of some or none of the children was associated with less depression among the parents (controlling for background characteristics, wealth, and health). The authors conclude that the lower prevalence of depression among parents where all children have left the households is due to pre-existing advantages in families with out-migrating children and by the economic benefits of migration. Nguyen et al. (2006) argue that remittances has a positive effect on children of migrants in Asia's school attendance, health care, and nutrition. However, the well-being of the children is negatively affected by an increase in drug use and a higher level of emotional stress and sadness due to the absence of one or both parents.

Social networks: The nature of social networks changes profoundly as economies develop, partly as a consequence of the changes in occupations and migration described above. Groups tend to become less defined by geography and kinship and more by shared interests and points of view. Also, formal networks, such as political parties, NGOs, recreational clubs and so on, tend to gain importance relative to informal groups. The effects of these changes on happiness are difficult to predict, but other studies clearly demonstrate that social networks, or "social capital", may affect life satisfaction to a substantial extent. Results from the United Kingdom suggests that frequent socialization such as attending social gatherings and cultural events and frequently visiting friends and family has a positive effect on satisfaction with life (Powdthavee, 2008). The lack of social networks may also explain why migrants have been found to report a lower level of subjective well-being (see e.g. Nguyen and Benet-Martínez, 2012).

Risk and shocks. The types of risk and shocks faced by households changes as the economy develops. Exposure to health shocks and natural disasters may fall, but integration into markets increases the potential importance of price shocks and unemployment. The literature on happiness shows significant, negative effects of not only health shocks but also unemployment and inflation (see e.g. Jahoda, 1981; Frey and Stutzer, 2002; Di Tella et al. 2001). Therefore, the overall effects of development-related changes in the risk environment are difficult to predict. At one extreme, some scholars argue that all individuals have a set-point (a fixed point) of happiness that they always adapt back to even after experiencing profound changes in life circumstances (see e.g. Lykken, 1999). Other authors argue that some shocks are impossible to adapt to. Easterlin (2003) notes that the death of a loved one or a divorce will cause a permanent fall in subjective well-being. On a macroeconomic level Di Tella et al. (2001) find strong evidence using data from eleven European countries that inflation and unemployment affect subjective well-being.

To *summarize,* the expected effects on happiness from income growth, occupational change, increasing landlessness, improvements in health and education, increased migration, and changing family structure, fertility, social networks and risk environments are ambiguous, and empirical investigations are therefore necessary.

4. Data

The empirical analyses is based on the 2012 wave of the Vietnam Access to Resources Household Survey (VARHS), which was implemented in the rural areas of 12 provinces in Vietnam between June and August 2012. The survey re-interviewed rural households sampled for the income and expenditure modules of the 2002 and 2004 Vietnam Household Living Standards Survey (VHLSS) in the 12 provinces.[4] To ensure proportionate representation of households that have come into existence after 2004, an additional 544 young households were sampled (drawn from the list of households available from the 2009 Population Census). Provinces were selected to facilitate the use of the survey as an evaluation tool for Danida-supported programs in Vietnam. Seven of the 12 provinces are covered by the Danida business sector program support (BSPS), and five provinces are covered by the agricultural and rural development (ARD) program. The provinces supported by the agricultural support program are located in the North West and Central Highlands, so these relatively poor and sparsely populated regions are over-sampled.[5] The VARHS was also implemented in 2002, 2006, 2008 and 2010, but the question on subjective well-being that we focus on here was only introduced in 2012. Therefore, analyses are based on the 2012 cross-section. However, as explained below we make use of 2010 data to explore the effects of changes in income on subjective well-being.

The question on life satisfaction was only answered by one respondent in each household, typically the household head. Therefore, our sample is not representative at the individual level. On the other hand, there are important benefits from using household survey data. In particular, the survey collects detailed data on a number of individual- and household level characteristics, such as income, occupation, health, education, social networks, migration and so on. The information available on these aspects of life is much

[4] See CIEM et al. (2009) for further background information and details. The sampled provinces are, by region: Red River Delta: Ha Tay. North East: Lao Cai, Phu Tho. North West: Lai Chau, Dien Bien. North Central Coast: Nghe Anh. South Central Coast: Quang Nam, Khanh Hoa. Central Highlands: Dak Lak, Dak Nong, Lam Dong. Mekong River Delta: Long An.

[5] Our sample is statistically representative at the provincial but not at the national level.

more detailed than in surveys such as the Gallup World Poll and the World Values Survey, which have been use din many studies of happiness (e.g. Helliwell, Layard and Sachs 2012, Deaton 2008). Also, as in most household surveys, the sample is clustered, in this case at the level of communes, the smallest administrative unit in Vietnam. For each household, data is therefore available on a sample of other households in their local community. We use this to estimate the effects of relative as opposed to absolute income on subjective well-being.

5. Variables

The main purpose of the paper is to investigate the effects of the various dimensions of economic development listed in Section 3 on life satisfaction. Therefore, the hypotheses tested is that each of the factors listed in Section 3 (income, occupation, landlessness, education, health, fertility, family structure, migration, social networks and shocks) affect happiness. In addition we also investigate the effects of gender and age, two standard variables in happiness models, and of belonging to the ethnic majority Kinh group. Inclusion of the latter variable is justified by the large differences in development outcomes between Kinh and non-Kinh (with Kinh people tending to do better). We also test the effect of being the household head, due to the composition of the sample where household heads are over-represented.

We run regression models of the following type:

$$H_i = X_i'\beta + p_i'\gamma + \varepsilon_i \quad (1)$$

where H_i is respondents *i*'s answer to the subjective well-being question described in Section 2, X_i is a vector of variables capturing the development dimensions listed above, in addition to age, gender and headship status. p_i is a dummy for province of residence and ε_i is an error term. Errors are allowed to be correlated within communes (the primary sampling unit), but not across. β and γ are vectors of coefficients to be estimated.

The first element in X_i is income, which is measured in great detail by the survey instrument. VARHS collects data on income from crop agriculture, livestock, aquaculture, common property resources, wage employment, non-farm enterprises, transfers and rental income. This data was also collected in earlier rounds of the survey and measures of both current (2012) and past (2010) income can therefore be included. Because of the clustered sampling design, data is also available on the income of other households in the commune. We include a measure of median commune income (medians are preferred

because means are often strongly affected by a few high outliers. If we assume that most respondents compare themselves with the "typical" fellow villager or commune resident, then median income is a better measure of "comparison income" than mean).

In terms of occupation, we distinguish between work on own farm, wage work, own non-farm enterprises and collection of common property resources. Respondents without any of these occupations are grouped together in a residual category. We define each respondent's "main" occupation based on the number of working hours in each type of job. For respondents with wage work as their main occupation, we distinguish further between skilled- and unskilled workers, between public-, private and State Owned Enterprise (SOE) jobs, and between different sectors of work (agriculture, manufacturing etc.).

Landless households are defined as those that own no agricultural land (that is, landless households may own residential land and/or rent agricultural land). Education is defined as years of schooling.

Two measures of health are used. First, a variable measuring the number of days in the last year the respondent was unable to perform normal activities due to illness. Second, a measure of whether the respondent's household was hit by any health shocks that led to income losses in the past two years.[6]

For social networks, detailed, individual-level data on membership of formal groups is available. We distinguish between membership of the Communist Party, "mass organizations" and other formal groups. Mass organizations are the most important type of formal group in Vietnam. These organizations include the Women's Union, Farmers' Union, Youth Union and Veterans' Union. Membership is voluntary but mass organizations have close links with the government and play a significant role in official decision making, for example in terms of screening applicants for social benefits and government administered credit schemes. To proxy the strength of respondents' informal social networks, we use a measure of the number of weddings the respondent's households has attended in the past year. It is assumed that families with stronger, informal networks attend more weddings. Households attend many more weddings in Vietnam than in the typical, Western country. The median number of weddings attended in the past year is 15.

Three measures of migration are used. First, an indicator for the head of the household being born in the commune of current residence (data is not available on all household members). Second, an indicator for a member of the household having migrated temporarily (and currently being away) and third, an indicator for a former household member having permanently migrated to another commune, district or province.

[6] The shocks include those that lead to the death of a household member.

The VARHS also collects detailed data on household exposure to shocks. We use dummies indicating whether the respondent's household experienced any of five different types of shocks in the past two years. One of them is health shocks, already mentioned above. Another is shocks caused by natural disasters, such as drought or flooding. A third groups of shocks are those caused by pest infections, crop disease or Avian Flu. A fourth group is "economic shocks", which includes adverse price changes, unemployment, investment failure and land loss.[7] A fifth category captures the few shocks that do not belong in any of the four categories already listed.

The purpose of these analyses is to investigate the effects of these variables on life satisfaction. In some cases it is relevant to speculate that causality may also run in the other direction. A positive outlook may help a person to earn higher income and may play a role in preventing and recovering from disease. Panel data or instrumental variables would in principle be helpful but we do not have access to these and the conclusions of the study therefore rest on the assumption that the causal links from development outcomes to happiness are stronger than the links in the other direction, which we find highly plausible. Studies that use panel data do indeed find causal relationships from income, marital status, unemployment and health to happiness (see e.g. Helliwell, Layard and Sachs, 2012; Blanchflower and Oswald, 2000; Clark and Oswald, 1994).

6. Descriptive statistics

Figure 1 presents the distribution of answers to the subjective well-being question described in Section 2. There is significant variation across respondents. 52 percent are "very" or "rather" pleased with their lives, while 48 percent are "not very" or "not at all" pleased with their lives. The share falling in the latter two categories is surprisingly large and may be viewed as cause for concern.[8] However, since the question formulation and sampling are different from most other surveys, comparison of the level of "happiness" measured is difficult. It is more interesting to study explanations for the variation observed in the VARHS data.

[7] It would in principle be interesting to investigate the specific effects of unemployment, land loss and so on separately, but the number of household hit by each sub-category of shocks is small and therefore it is difficult to estimate the effect of each of these specific types of shock.

[8] In the World Values Survey in Vietnam (pooled results for 2001 and 2006) 92 percent of respondents report being "very" or "quite" happy, while only 8 percent are "not very" or "not at all" happy.

Table 1 presents descriptive statistics on the explanatory variables discussed above, and on life satisfaction. The first column shows the mean of each variable. The second column shows medians for non-dummy variables. The last two columns, with the headings "low" and "high" show the share of respondents who are either "very" or "rather" pleased with their lives, separately for respondents with high and low values on the row variables. For dummy variables, "low" means zero and "high" means one. For other variables, "low" means at or below the median value, and "high" means above median. For example, the first row shows that among respondents with below-median income, 41 percent are rather or very pleased with life, while the corresponding share for those with above-median income is 63 percent. The third row shows that 54 percent of respondents from landless households, and 52 percent from land-owning households, are rather or very pleased with life. Stars indicate whether the difference in life satisfaction between "low" and "high" groups is statistically significant.

The strong correlation between income and happiness is a standard finding in cross-sectional, household level analyses. It is interesting nonetheless. Figure 2 explores the relation between income and life satisfaction in more detail, by presenting the share who are rather or very pleased with life for each decile of the income distribution. The results show that happiness increases quite smoothly as income rises. The effect of income does not disappear among the highest quintiles. This does not tell us, of course, whether absolute or relative income matters most, or whether levels or changes of income are most important. The regression analyses below explore these important questions.

Table 1 shows a number of other, interesting results. For example, ethnic Kinh are 11 percentage points more likely to be happy (rather or very pleased with life) than non-Kinh. The analyses below investigate whether this large difference in driven by differences in development outcomes, or there is a direct effect of ethnicity. Respondents with high levels of schooling are significantly more happy than those with little schooling and there is a huge, positive effect of Communist Party membership. As expected, respondents hit by shocks are significantly less happy than those who avoided shocks. The most severe type of shock appears to be those affecting the health of household members. Because these are bivariate correlations, however, they are difficult to interpret. The effect of Party membership may, for example, simply reflect differences in income between members and non-members. To sort these issues out, we turn to multivariate regression analyses.

7. Results

Table 2 presents regressions for happiness. The dependent variable is the four-category subjective well-being measure described in Section 2 and Figure 1. By distinguishing between all four categories, we exploit

all the information collected on life satisfaction. The subjective well-being measure is an ordinal scale variable. Therefore, we estimate ordered probit regressions. Results from OLS regressions are qualitatively very similar. Standard errors are adjusted for commune level clustering. All regressions include province dummies (not shown).

Income. Focus first on the effects of income. In addition to the per capita household income measure described above, the median commune income (among the respondents in the sample from the same commune) and (in regressions 4 and 5) the change in log income from 2010 to 2012 are also included. Because the VARHS sample was expanded with about 500 households in 2012, the inclusion of 2010 data implies a drop in the number of observations. Therefore, results are shown both with and without the income-change variable, in the latter case for the full 2012 sample. Median commune income is more precisely estimated the more households are sampled in a commune. The number of observations varies considerably across communes.[9] To focus on communes with relatively precise estimates of median income, regression 5 includes only communes with at least 10 observations. If respondents care about relative income (and derive more satisfaction from a higher, relative position), a negative effect of median commune income is expected, conditional on own income. The effect of changes in income is more difficult to predict. If consumption is determined by "permanent income" (average lifetime income), and happiness is driven by consumption, then a negative effect is expected (all else equal, lower income in the past means that lifetime income is lower). In country level regressions, Deaton (2008) indeed finds that conditional on current income per capita, recent economic growth has a negative effect on average happiness. On the other hand, it is also easy to imagine that the experience of progress is a source of happiness. Two dollars a day may feel sweeter if your income last year was one dollar per day than if it was three dollars. In that case, a positive effect is expected.

Results consistently show a strong and highly significant, positive effect of own income. As expected, the effect of median commune income is negative, significantly so at the 10-percent level in two regressions and at the five-percent level in one. In regressions 1,3 and 4 (income variables are not included in regression 2), the point estimate for median commune income is significantly lower than the estimate for own income, implying that an overall increase in income (economic growth) increases happiness. However,

[9] The reason for this variation is the following: The VARHS re-interviews households sampled for the income and expenditure module of the VHLSS in 2002 in four provinces (Ha Tay, Phu Tho, Quang Nam and Long An) and the 2004 VHLSS in 12 provinces (see footnote 2). The VHLSS sampled about 25 households in each commune. In VHLSS 2004, however, the number of households sampled in each commune for the income and expenditure module was reduced to only three.

the low number of observations in many communes means that median commune income is measured with considerable error, possibly resulting in attenuation bias. This interpretation is supported by the results in regression 5, where only communes with more precise measures of median income are included. In this regression, the point estimate on median commune income increases significantly. The sum of the coefficients on own and commune income in this regression is close to zero, implying that only relative, not absolute income matters and that general, economic growth has no direct impact on happiness. Note, however, that this regression controls for health, education and so on, and that income may have an indirect, positive effects on happiness if higher income facilitates improvements in these variables.

The effect of recent changes in income is significantly negative, consistent with the macro-level results in Deaton (2008) and with the permanent income interpretation, but inconsistent with the view that the experience of improvements in income is in itself a positive factor for happiness.

Occupation. Next, consider the effects of the respondent's occupation. The results in Table 1 show a positive effect of working in own, non-farm enterprise and no significant effects of other, occupational categories. The regression results in Table 2 are quite different. They show a consistent, negative and statistically significant effect of working for a wage, relative to working on own farm (the reference category). This effect is present both when occupational dummies are entered alone (in Regression 2) and when income and other variables are controlled (Regressions 3-5). In the models with control variables, there is also a significant, *negative* effect of working in own, non-farm enterprise. The negative effect of wage labor is consistent with papers described in section 3, which a find a positive effect of self-employment. The result is worth noting because the movement of millions of Vietnamese over the next few decades from own-farm agriculture to wage labor in industry and services can be considered a near-certainty. Of course, many of these people will move from rural to urban areas. Our results are not directly informative about subjective well-being in urban areas because all observations are rural. They do suggest, however, that there may be a significant, psychological cost associated with being a wage worker.

Table 3 explores in more detail what drives the negative effect of wage labor (the regressions reported include the same control variables as in Regression 3 in Table 2, but the estimates are not reported). The table first splits the sample into young and old respondents (the threshold is 49 years, the median age in the sample). The idea is that the negative effect of wage labor may be driven by older respondents, whose values may be more closely linked with traditional, rural life than in younger generations. The results give some support for this view – the negative effect of wage labor is stronger among the old than among the

young. However, there is also a statistically significant, negative effect among the young. On the other hand, the negative effect of working in own non-farm enterprise is only present among older respondents. Regressions 3 to 5 divides the wage-worker category into sub-categories. Regression 3 distinguishes between skilled- and unskilled workers. Remarkably, the effects of these two types of wage work (again relative to working on own farm) are almost identical. Hence, the negative effect of wage labor is not driven by the tough and poorly paid jobs of low-educated workers in agriculture or manufacturing. Also, upgrading the educational level of the labor force may not necessarily eliminate the psychological cost of wage labor.

Regression 4 distinguishes between wage work in the public- and private sectors, and in SOEs. The effects are negative for each sector, but the point estimate is higher for private sector work. Although this difference is not statistically significant, it may indicate that somewhat higher disutility is associated with private- than with public sector jobs. Regression 5 splits the "wage worker" category into sectors of occupation (agriculture, mining, manufacturing, construction, and services). The results for different sectors are remarkably similar. Wage work in manufacturing or services affects happiness at least as much as wage labor in agriculture. Therefore, the negative effects of wage labor appear not to be tied to low-status tasks in traditional, agricultural societies and it is unlikely to be eliminated by changes in the sectorial composition of the economy.

In general, Table 3 shows that the negative effect of wage labor is found across a broad range of jobs and among both young and old respondents. Therefore, the effect is unlikely to be driven by specific characteristics of some types of particularly tough or low-status jobs. Rather, the negative effect of wage works appears to be accounted for by features shared by many types of jobs. These features may include the loss of autonomy relative to working on ones own farm and possibly to a loss of social status.

Landlessness. Now return to Table 2. The coefficient on the dummy for belonging to a landless household is insignificant in all regressions and the point estimate is positive. This indicates that there is no significant, psychological cost associated with being landless in rural Vietnam. This may be somewhat surprising but is consistent with results in Ravallion and De Walle (2008), which show that landlessness is associated with higher rather than lower consumption. The interpretation is that people tend to become landless not as a consequence of negative shocks to health or production, but rather as a part of a strategy aimed at exploiting emerging opportunities in the non-farm economy.

Schooling. There is a significant, positive effect of years of schooling in all regressions. This is in line with the majority of the literature. In our sample we witness a direct effect of education (controlling for wealth and

occupation). According to the literature, direct effects stem from acquirement of knowledge, status in society, being able to participate in social and cultural activities without feeling shame, and increased self-esteem. There is always the possibility that part of the relationship comes from omitted wealth variables (an indirect effect from education on subjective well-being). As the income module in the VARHS data is quite elaborate it seems more plausible that the positive effect from years of schooling works through the direct channels mentioned above.

Health. Both indicators of health (working days lost due to illness in last year and health shocks to the respondent's household in the last two years) have significant negative effects in regressions 3 and 4 (the effects are insignificant in Regression 5, but this may be ascribed to the much lower number of observations in this model). As described above, this is consistent with a number of other studies on happiness and health.

Marital status. Regressions 3 to 5 include a set of dummies for marital status. The reference category is "married". The results show negative effects of all categories, relative to being married. In particular, divorced or separated respondents (only two percent of the sample) report much lower happiness than married respondents. These results may to some extent reflect the traditional, family oriented values that continue to play a large role in Vietnam. However, it is important to note that the positive effect of marriage on happiness has been found in many studies, most of them from developed countries (see section 3). Therefore, the negative effect of singlehood may well not be eliminated by modernization. On the other hand, marriage rates tend to decline with economic development. This may have negative side-effects on happiness.

Fertility. The effect of children in the household is insignificant in all specifications. Hence, falling fertility may not have strong, direct effects on the happiness. This is contrary to the papers described above, some of which show that children in the household decreases subjective well-being (see e.g. Khanemann and Deaton, 2010).

Social networks. The results on membership of formal groups are quite remarkable. In particular, there is a strong, positive and highly significant effect of being a member of the Communist Party. Note that this holds even when income, type of occupation, health and so on are controlled. Therefore, Party membership may matter for other than merely instrumental reasons. One possibility is that the effect is driven by social status. Another is that Party Membership proxies for Communist ideology. Like religion, ideology may have positive effects on happiness by strengthening the perception of meaning and purpose in life (see e.g. Inglehart et al., 2008). Being member of the Communist Party was also found to have a

strong positive effect on subjective well-being in urban China (Knight and Gunatilaka, 2010. Data on party membership in rural areas was not available in this study).

There is also a significant and positive effect of mass organization membership, although the point estimate is much smaller than for party membership. Membership of other organizations is marginally significant in one specification and not in the others, although point estimates are always positive.

The measure of informal networks, weddings attendance, is positive in all specifications and significant in both Regressions 3 and 4. Overall, the results demonstrate positive effects of "social capital" on happiness. These effects are found both for formal and informal types of social relations. Even if economic development is associated with a shift in the relative importance of informal formal types of social relations, this may not have strong effects on happiness.

Migration. Respondents in households with a "migrant" background (i.e. where the head is not born in the commune of residence) are slightly less happy than others. On the other hand, there is no effect of a household member having permanently migrated to another commune, district or province and there is a significant, positive effect of a temporary migrant who is currently away. The latter effect is consistent with the permanent income hypothesis: the fact that a household member is currently away but expected to return may increase expected, future income. In general, the results on migration are ambiguous: there may be a moderate, psychological cost attached to living away from ones birthplace, but migration appears not to have strong, negative effect on the households than send migrants. In the case of temporary migration, the effects on happiness may even be positive.

Shocks. The significant, negative effect of health shocks has already been discussed. Table 2 shows no significant effects of shocks related to natural disasters or to pests, crop disease or avian flu. Note that regressions control for income and that these shocks may well have an effect on happiness that works through income. Indeed, Table 1 shows significant, bivariate correlations between happiness and all types of shocks (except "other shocks"). On the other hand, there is a significant, negative effect of "economic shocks" (unemployment, land loss, adverse price change or failed investment), even after income is controlled for. This is consistent with the literature showing a negative effect of unemployment on happiness (see above) and suggests that economic shocks are not only important because they lead to

income losses, but also because they may lead to decreased social status, or shift in expectations for the future.[10]

Ethnicity. In contrast with Table 1, the regressions in Table 2 show no significant effect of Kinh ethnicity in regressions 3 and 4 (Regression 5 does show a significant, positive effect of being Kinh, but this result should not be emphasized because the provinces included in this regression (Ha-Tay, Phu Tho, Quang Nam and Long An) have relative few ethnic minorities, especially in comparisons with some of the provinces included in regressions 3 and 4 but not Regression 5). Therefore, the positive effect of being Kinh found in Table 1 appears to be driven by differences in development outcomes, such as income and health, between ethnic minority- and majority groups.

Gender. The effect of gender is insignificant in all regressions. This is somewhat surprising as the majority of studies of happiness in advanced countries show that women have a higher average level of well-being than men (see e.g. Helliwell, Layard and Sachs 2012; Blanchflower, 2008). Results from developing countries in some cases find that women are less satisfied with life compared to men (see e.g. Senik, 2004 and Graham and Pettinatto, 2002).

Age: The effect of age is U-shaped in Regressions 3 and 4 (the trough is at 46 years in Regression 4). This is a standard finding in most studies on subjective well-being and age (see e.g. Deaton 2008).

8. Conclusions

This study finds remarkably low levels of subjective well-being in rural Vietnam. Due to differences in sampling and question formulation, it is not trivial to compare with results from other sources, some of which show substantially higher levels of happiness in Vietnam (World Values Survey 2001, 2006), but it is nevertheless cause for concern that 48 percent of respondents report being “not very” or “not at all” pleased with their lives.

We find that the effects of economic development on happiness are ambiguous. There is a strong, positive effect of own income on happiness. However, there is also a significant, negative effect of *other people’s* income. The overall, direct effect of income growth on happiness may therefore not be strong. On the

[10] More detailed analyses suggest that the effect of ”economic shocks” is mainly driven by failed investment projects, rather than unemployment and land loss.

other hand, there are significant, positive effects of health and education on happiness. In this sense, development is beneficial for subjective well-being.

We may imagine negative side-effects from development, related to increased migration, decreased fertility and the changing nature of social networks. The results presented here provide little basis for such worries. However, an important, negative effect of development appears to be related to occupational structure. In particular, working for a wage is associated with significantly lower happiness, compared with working on a family farm. Since very large numbers of people are going to make the transition from the latter to the former type of occupation over the coming decades, this is cause for concern. Policy makers and employers should consider how the psychological burden of wage work may be lifted, for example by securing limits to working hours and protecting the right to holidays and decent working conditions.

In general, results are remarkably well in line with findings from other countries with completely different cultures and levels of development. For example, the effects of relative income, marital status, health, schooling, age and social capital are very similar to those reported for developed, Western countries (see Helliwell, Layard and Sachs 2012). This weakens the view that rural dwellers in developing countries are driven by "traditional", culture-specific values, which differ strongly from "Western" values. To a large extent, farmers in the rice fields of rural Vietnam seem to value *the same* characteristics of life as urbanites in the coffee shops of Copenhagen or New York. Our most important values are not Western or Eastern, traditional or modern, but universal.

REFERENCES:

Abas, M., A., Punpuing, S., Jirapramukpitak, T., Guest, P., Tangchonlatip, K., Leese, M., & Prince, M. 2012. Rural-urban migration and depression in ageing family members left behind. *The British Journal of Psychiatry, 195,* 54-60.

Alesina, A., Di Tella, R., & MacCulloch, R. (2004). Inequality and happiness: Are Europeans and Americans different? *Journal of Public Economics, 88,* 2009-2042.

Andrews, F., M., & Withey, S., B. (1976). *Social indicators of well-being: Americans' perceptions of life quality*. New York: Plenum Press.

Argyle, M. (2007). Is happiness a cause of health? *Psychology & Health, 12(6)*, 769-781.

Becchetti, L., Castriota, S., Giuntella, O. (2006). The Effects of Age and Job Protection on the Welfare Costs of Inflation and Unemployment: a source of ECB anti-inflation bias? *European Journal of Political Economy, 26*, 137-146.

Blanchflower, D., G., & Oswald, A., J. (2008). Is well-being U-shaped over the life cycle? *Social Science & Medicine, 66*, 1733-1749.

Blanchflower, D., G., & Oswald, A., J. (2004). Money, Sex and Happiness: An Empirical Study. *Scand. Journal of Economics, 106(3)*, 393-415.

Brickman, P., & Coates, D. (1978). Lottery Winners and Accident Victims: Is Happiness Relative? *Journal of Personality and Social Psychology, 36(8)*, 917-927.

Castriota, S. (2006). Education and Happiness: a Further Explanation to the Easterlin Paradox. Mimeo.

Clark, A., E., & Oswald, A., J. (1994). Unhappiness and Unemployment. *The Economic Journal, 104*, 648-659.

Clark, A., E., & Oswald, A., J. (1996). Satisfaction and comparison income. *Journal of Public Economics, 61,* 359-381.

Clark, A., E., Frijters, P., & Shields, M., A. (2008). Relative Income, Happiness, and Utility: An Explanation for the Easterlin Paradox and Other Puzzles. *Journal of Economic Literature, 46(1)*, 95-144.

Costa, P., T., & McCrae, R., R. (1988). From Catalog to Classification: Murray's Needs and the Five-Factor Model. *Journal of Personality and Social Psychology, 55(2),* 258-265.

Deaton, A. (2008). Income, Health and Wellbeing Around the World: Evidence from the Gallup World Poll. *The Journal of Economic Perspectives, 22(2)*, 53-72.

Diener, E. (1984). Subjective Well-Being. *Psychological Bulletin, 95(3)*, 542-575.

Diener, E. (1993). Assessing Subjective Well-Being: Progress and Opportunities. *Social Indicator Research, 31*, 103-157.

Diener, E. (2000). Subjective Well-Being. The Science of Happiness and a Proposal for a National Index. *American Psychologist*, *55,* 34-43.

Diener , E., & Oishi, S. (2000). *Money and Happiness: Income and subjective well-being across nations*. In E., Diener & E., M., Suh (Eds.). Culture and Subjective Well-Being. Cambridge, US: MIT Press.

Di Tella, R., MacCulloch, R., J., & Oswald, A., J., (2003). The Macroeconomics of Happiness. *The Review of Economics and Statistics, 85*, 809-827.

Dolan, P., Peasgood, T., & White, M. (2008). Do we really know what makes us happy? A review of the economic literature on the factors associated with subjective well-being. *Journal of Economic Psychology, 29*, 94-122.

Frey, M., & Benz, B., S. (2008). Being Independent is a Great Thing: Subjective Evaluations of Self-Employment and Hierarchy. *Economica, 75*, 362-383.

Easterlin, R. (1974). *Does Economic Growth Improve the Human Lot? Some Empirical Evidence*. In Nations and Households in Economic Growth: Essays in Honor of Moses Abramowitz, edited by P.A. David and M. W. Reder. Academic Press, New York and London.

Easterlin, R. (1995). Will raising the incomes of all increase happiness of all? *Journal of Economic Behavior and Organization, 27,* 35-47.

Easterlin, R. (2003). Explaining happiness. *PNAS, 100(19)*, 11176-11183.

Graham, C., & Petinatto, S. (2002). Frustrated Achievers: Winners, Losers, and Subjective Well-Being in New Market Economies. *Journal of Development Studies, 38(4)*, 100-140.

Gartaula, H., N., Visser, L., & Niehof, A. 2012. Socio-Cultural Dispositions and Wellbeing of the Women Left Behind: A Case of Migrant Households in Nepal. *Social Indicators Research, 108,* 401-420.

Graham, C. (2005a). Insights on development from the economics of happiness. *The World Bank Research Observer, 20(2),* 201-231.

Graham, C. (2005b). The Economics of Happiness: Insights on globalization from a novel approach. *World Economics, 6(3)*, 41-55.

Gurin, G., Veroff, J., & Field, S. (1966). *Americans' view with their mental health*. New York: Basic.

Hagerty, M, R., & Veenhoven, R. (2003). Wealth and happiness revisited – growing national income *does* go with greater happiness. *Social Indicators Research, 64*, 1-27.

Hartog, J., & Oosterbeek, H. (1998). Health, wealth and happiness: why pursue a higher education? *Economics of Education Review, 17(3)*, 245-256.

Hayo, B., & Seifert, W. (2003). Subjective economic well-being in Eastern Europe. *Journal of Economic Psychology, 24*, 329-348.

Helliwell, J., F., & Wang, S. (2011). Trust and wellbeing. *International Journal of Wellbeing, 1(1),* 42-78.

Helliwell, J., Layard, R., & Sachs, J. (2012). *World Happiness Report*. Colombia: Earth Institute.

Inglehart, R., & Klingemann, H., D. (2000). *Genes, Culture and Happiness*. Cambridge, US: MIT Press.

Inglehart, R., Foa, R., Peterson, C., & Welzel, C. (2008). Development, Freedom, and Rising Happiness: A Global Perspective (1981-2007). *Perspectives on Psychological Science, 3,* 264-285.

Khanemann, D., & Deaton, A. (2010). High income improves evaluation of life but not emotional well-being. *PNAS, 107(38),* 16489-16493.

Knight, J., & Guntilaka, R. (2010). The Rural-Urban Divide in China: Income but Not Happiness? *The Journal of Development Studies, 46(3),* 506-534.

Knight, J., & Gunatilaka, R. (2010). Great Expectations? The Subjective Well-being of Rural-Urban Migrants in China. *World Development, 38(1),* 113-124.

Kornhauser, A. (1965). *Mental Health of the Industrial Worker: A Detroit Study*. Oxford, England: John Wiley.

Lykken, D. (1999). *Happiness: What studies on twins show us about nature, nurture, and the happiness set-point.* New York, US: Golden Books.

Larsen, R., J., Diener, E., & Emmons, R., A. (1985). An Evaluation of Subjective Well-Being Measures. *Social Indicators Research (17)*, 1-17.

Layard, R. (2005). *Happiness: Lessons from a new science*. New York, US: Penguin.

Layard, R. (2006). Happiness and public policy: A challenge to the profession. *The Economic Journal, 116*, 24-33.

Lykken, D. (1999). *Happiness: What studies on twins show us about nature, nurture, and the happiness set-point.* New York, US: Golden Books.

Margolis, M., & Myrskylä, R. (2012). Happiness: Before and After the Kids. *MPIDR Working Paper 2012-013*.

Mehnert, T., Kraus, H., H., Nadler, R., & Boyd, M. (1990). Correlates of life satisfaction in those with disabling conditions. *Rehabilitation Psychology, 35(1)*, 3-17.

Nguyen, L., Yeoh, B., S., A., & Toyota, M. 2006. Migration and the well-being of the 'left behind' in Asia. Key themes and trends. *Asian Population Studies, 2(1),* 1744-1749.

Peiro, A. (2006). Happiness, satisfaction and socio-economic conditions: Some international evidence. *The Socio-Economics of Happiness, 35(2)*, 348-365

.

Ravallion, M. and De Walle, D. (2008). Does rising landlessness signal success or failure for Vietnams agrarian transition? Journal of Development Economics 87, 191-209.

Sandvik, E., Diener, E., & Seidlitz, L. (1993). Subjective Well-Being: The Convergence and Stability of Self-Report and Non-Self-Report Measures. *Journal of Personality, 61(3),* 317-342.

Senik, C. (2004). When Information Dominates Comparison. Learning from Russian Subjective Panel Data. *Journal of Public Economics, 88*, 2099-2133.

Stevenson, B., & Wolfers, J. (2008). Economic growth and subjective well-being: reassessing the Easterlin paradox. *NBER Working Paper Series. Working Paper 14282.*

Strack, F., Argyle, M., & Schwarz, N. (1991). *Subjective well-being an interdisciplinary perspective.* New York, US: Pergamon Press.

Stutzer, A., & Frey, B., S. (2006). Does marriage make people happy, or do happy people get married? *The Journal of Socio-Economics*, *35,* 326-347.

Veenhoven, R. (1984). *Conditions of happiness*. Dordrecht, The Netherlands: Reidel Publ. Co.

Veenhoven, R. (2005). Inequality of happiness in nations. Introduction to this special issue. *Journal of Happiness Studies*, 6, 351-355.

Vohra, N., & Adair, J. (2000). Life Satisfaction of Indian Immigrants in Canada. *Psychology Developing Societies, 12(2)*, 111-134.

Winkelmann, L., & Winkelmann, R. (1998). Why Are the Unemployed So Unhappy? Evidence from Panel Data. *Economica, 65,* 1-15.

Witter, R., A., Okun, M., A., & Stock, W., A., & Haring, M., J. (1984). Education and Subjective Well-Being: A Meta-Analysis. *Educational Evaluation and Policy Analysis, 6(2),* 165-173.

Figure 1 Subjective well-being in rural Vietnam

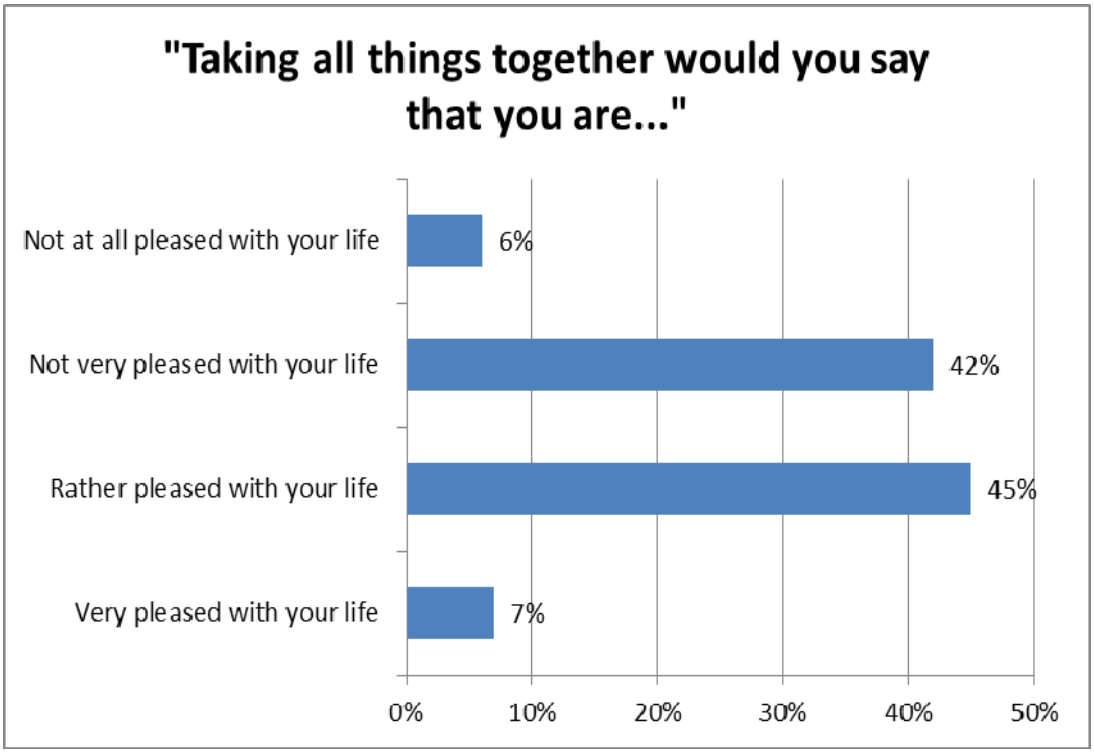

Figure 2 Income and Happiness

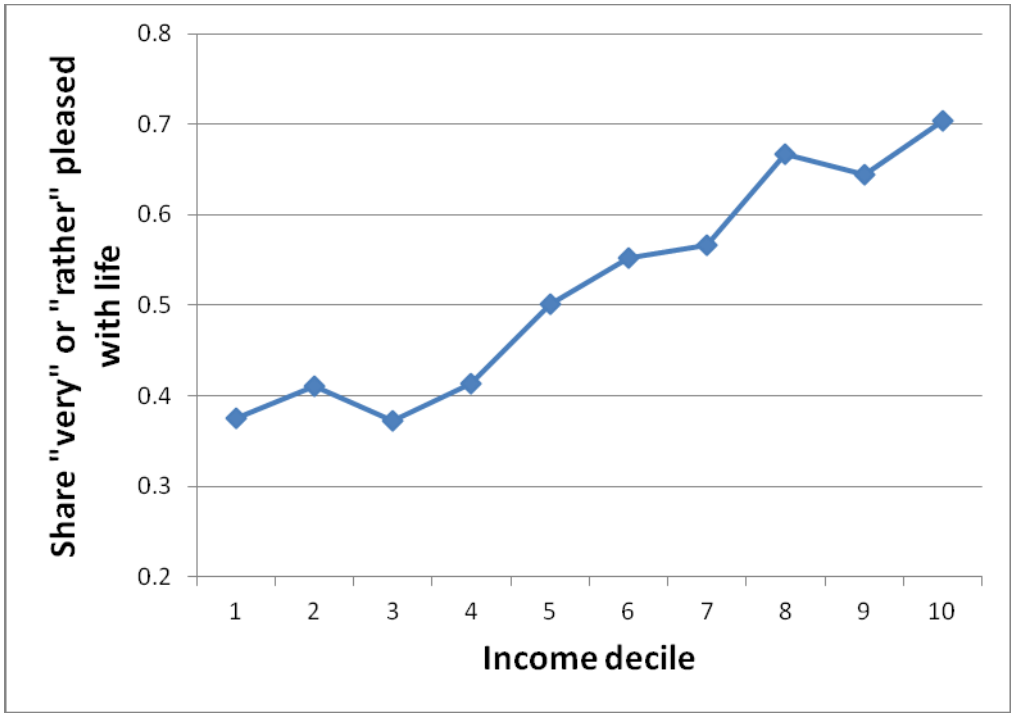

Table 1 Descriptive statistics and bivariate correlations with happiness

			Share "rather" or "very" pleased with life	
Variable	*Mean*	*Median*	*Low*	*High*
Income per capita, '000 VND	13,3	9,671	0.41	0.63*
Median commune income, '000	11,1	10,33	0.49	0.56*
Landless	0.09		0.52	0.54
Female	0.33		0.54	0.49*
Age	49.8	49	0.52	0.53
Years of schooling	7.1	8	0.48	0.58*
Children below 15	1.01	1	0.53	0.51
Kinh	0.79		0.44	0.55*
Marital status				
Married	0.82		0.43	0.55*
Single	0.03		0.53	0.46
Widowed	0.13		0.54	0.44*
Divorced or separated	0.02		0.53	0.29*
Main occupation				
Agriculture	0.49		0.53	0.52
Wage worker	0.24		0.53	0.51
Non-farm enterprise	0.13		0.52	0.59*
Common property resources	0.02		0.53	0.41
None	0.13		0.53	0.52
Member of Communist Party	0.06		0.51	0.75*
Member of mass organization	0.55		0.51	0.54
Member of other formal group	0.19		0.52	0.55
Weddings attended	16.9	15	0.49	0.57*
Shocks to hh in last two years				
Natural disaster	0.09		0.53	0.45*
Pest infection, crop disease or	0.23		0.55	0.46*
Economic (unemployment, loss	0.07		0.53	0.47*
Illness	0.11		0.54	0.41*
Other shock	0.02		0.53	0.53
Work days lost due to illness in	12.2	0	0.57	0.49*
Hh head born in commune	0.28		0.52	0.55
Hh member migrated	0.08		0.52	0.53
Hh member migrated	0.09		0.52	0.61*
High	0.79		0.55	0.52

Note: N=2,740. In the last two columns, entries are share of respondents who are "rather" or "very" pleased with life. The column heading "Low" ("High") means zero (one) on dummy variables and below (above) median on continuous variables. Stars indicate whether the difference in life satisfaction between the two groups is statistically significant. * significant at 10 percent level, ** significant at 5 percent level, *** significant at 1 percent level.

Table 2 Happiness regressions

	Dependent variable: Life satisfaction (four categories)				
Income per hh member, log	0.433***		0.392***	0.476***	0.474***
	[0.038]		[0.040]	[0.048]	[0.077]
Median commune income per capita, log	-0.125*		-0.099	-0.141*	-0.341**
	[0.069]		[0.073]	[0.077]	[0.168]
Change in log income per cap, 2010-2012				-0.156***	-0.192***
				[0.036]	[0.058]
Main occupation					
Wage worker		-0.119**	-0.323***	-0.367***	-0.345***
		[0.052]	[0.060]	[0.067]	[0.096]
Non-farm enterprise		0.082	-0.217***	-0.292***	-0.321***
		[0.075]	[0.083]	[0.092]	[0.119]
CPR collection		-0.186	-0.186	-0.220	-0.219
		[0.179]	[0.167]	[0.204]	[0.317]
None		0.017	-0.096	-0.111	-0.086
		[0.072]	[0.079]	[0.086]	[0.130]
Landless			0.095	0.064	0.124
			[0.084]	[0.105]	[0.153]
Female			-0.031	-0.066	0.009
			[0.073]	[0.081]	[0.123]
Age in year			-0.030***	-0.036***	-0.019
			[0.011]	[0.013]	[0.021]
Age squared/1000			0.338***	0.394***	0.235
			[0.098]	[0.120]	[0.188]
Years of schooling, ln(x+1)			0.112***	0.121***	0.252***
			[0.042]	[0.044]	[0.095]
Children below 15, ln(x+1)			0.005	0.079	0.113
			[0.050]	[0.057]	[0.091]
Marital status					
Never married			-0.199	-0.248*	-0.363*
			[0.123]	[0.144]	[0.197]
Widowed			-0.265***	-0.255***	-0.282**
			[0.087]	[0.094]	[0.134]
Divorced or separated			-0.623***	-0.653***	-0.457
			[0.207]	[0.246]	[0.440]
Kinh			-0.084	0.003	0.426**
			[0.112]	[0.118]	[0.195]
Member of Communist Party			0.528***	0.487***	0.576***
			[0.099]	[0.117]	[0.214]

Member of Mass Organization			0.174***	0.167***	0.147
			[0.057]	[0.064]	[0.119]
Member of group other than party, mass			0.148*	0.098	0.121
			[0.077]	[0.083]	[0.121]
Weddings attended in other hh,			0.138***	0.117**	0.078
			[0.040]	[0.046]	[0.073]
Shocks to hh in last two years					
Natural disaster			0.000	0.022	-0.170
			[0.084]	[0.089]	[0.160]
Pest infection, crop disease or			-0.064	-0.057	-0.060
			[0.057]	[0.062]	[0.102]
Economic (unemployment, loss of land etc.)			-0.235**	-0.242**	-0.403**
			[0.097]	[0.105]	[0.185]
Illness			-0.340***	-0.344***	-0.207
			[0.083]	[0.092]	[0.141]
Other shock			0.078	-0.048	-0.111
			[0.209]	[0.249]	[0.521]
			-0.060***	-0.056***	-0.003
			[0.019]	[0.021]	[0.032]
Head born in commune			0.109*	0.141**	0.130
			[0.059]	[0.064]	[0.106]
Hh member migrated			-0.068	-0.065	-0.125
			[0.072]	[0.077]	[0.129]
Hh member migrated temporarily			0.149*	0.157*	0.234*
			[0.079]	[0.085]	[0.135]
Hh head			-0.051	-0.08	-0.136
			[0.088]	[0.098]	[0.135]
Province dummies	Yes	Yes	Yes	Yes	Yes
Observations	2,594	2,680	2,534	2,058	858

Note: Ordered probit regressions. Standard errors adjusted for clustering at the village level. Regression 4 and 5 include only hh interviewed in both 2010 and 2012. Regression 5 includes only observations from communes with at least 10 observations.* significant at 10%; ** significant at 5%; *** significant at 1%

Table 3 Exploring effect of wage labor on happiness

	Dependent variable: Life satisfaction (four categories)				
	Age<49	Age>=49			
Main occupation					
Wage worker	-0.254***	-0.399***			
	[0.085]	[0.106]			
Unskilled wage worker			-0.324***		
			[0.072]		
Skilled wage worker			-0.321***		
			[0.084]		
Private sector wage worker				-0.361***	
				[0.064]	
Public sector wage worker				-0.225*	
				[0.118]	
SOE wage worker				-0.182	
				[0.250]	
Wage worker in:					
Agriculture					-0.304**
					[0.135]
Mining					-0.484
					[0.341]
Manufacturing					-0.361***
					[0.123]
Construction					-0.285***
					[0.093]
Services					-0.341***
					[0.091]
Non-farm enterprise	-0.045	-0.436***	-0.216***	-0.222***	-0.218***
	[0.119]	[0.107]	[0.083]	[0.083]	[0.083]
Common property resources	0.212	-0.480**	-0.19	-0.195	-0.191
	[0.248]	[0.211]	[0.170]	[0.171]	[0.171]
None	-0.108	-0.171*	-0.097	-0.097	-0.099
	[0.143]	[0.097]	[0.079]	[0.079]	[0.079]
Province dummies	Yes	Yes	Yes	Yes	Yes
Control variables	As in Tab. 2, reg. 3	As in Tab. 2, reg. 3	As in Tab. 2, reg. 3	As in Tab. 2, reg. 3	As in Tab. 2, reg. 3
Observations	1,240	1,294	2,534	2,534	2,534

Note: Ordered probit regressions. Standard errors adjusted for clustering at the village level. * significant at 10%; ** significant at 5%; *** significant at 1%