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The happy farmer

Self-employment and subjective well-being in rural Vietnam

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Abstract: Using survey data from rural Vietnam, this paper documents a statistically significant, positive effect of self-employment in farming on subjective well-being. Wage workers are less happy than farmers across a range of different types of wage jobs. These results suggest that structural transformation is associated with a psychological cost, which may contribute to explaining earnings gaps between sectors and types of employment. We also investigate other determinants of happiness, such as income, age, gender, children, ethnicity, marital status, schooling, landlessness, migration, social networks and shocks. Our results from rural areas in a dynamic developing country context are remarkably similar to findings about subjective well-being from developed countries, with entirely different cultures and levels of economic development.

Keywords: happiness, self-employment, wage work, agriculture, Vietnam
JEL classification: I31, J24, J43, O17

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1 Introduction

Analyses of economic development often rely on objective measures of welfare, such as consumption or fulfillment of 'basic needs', including food, shelter and security. In recent years, however, measures of subjective well-being, or happiness, have gained increasing attention.[1] The vast majority of existing academic papers on happiness refer to developed countries.[2] In contrast, this study investigates the determinants of subjective well-being in rural Vietnam, a dynamic developing country. We focus on the effects of self-employment on subjective well-being, and also investigate the impact of many other potential drivers of happiness, such as income.

Vietnam is undergoing a process of fast structural transformation and economic development. This not only entails rising income. Rather, it changes life circumstances for ordinary Vietnamese in a vast number of ways, including, inter alia, gender roles, family structure, health outcomes, education, migration and the nature of social networks. One key economic feature of society that is changing significantly is the structure of employment. Large sections of the labor force move from agriculture to other sectors. Also, large numbers of people move from self-employment to wage work. In Vietnam, the share of the labor force employed in agriculture dropped from 70 percent in 1996 to 47 percent in 2012. The share of self-employed dropped from 83 to 65 percent over the same period.[3] These trends are set to continue over the coming decades and are mirrored by similar tendencies in many other countries. Occupational shifts undisputedly play an important role in generating increasing productivity and income (e.g. McMillan and Rodrik 2011). However, they may also have important effects on subjective well-being. Benz and Frey (2008a) show that self-employment is associated with significantly higher job satisfaction than wage labor in three western countries. They ascribe this effect to the higher levels of 'procedural utility' for the self-employed. In particular, self-employment is associated with more independence than wage work. The move from agriculture to non-agriculture may also affect happiness. Traditional life styles are closely associated with farming and a move to another sector of the economy may entail a loss of identity and life meaning that leads to lower subjective well-being (e.g. Inglehart et al. 2008).

In this study, data from a rural household survey in 12 provinces of Vietnam is used to test the hypothesis that self-employment, especially in farming, has a positive effect on happiness. Our results show, first, that the level of subjective well-being in rural Vietnam is low, which may be surprising given that rapid economic progress is taking place. Some 48 percent of respondents report being 'not very' or 'not at all' pleased with their lives. Second, there is a substantial, positive effect of self-employment on happiness. This effect is largely driven by self-employment in farming, as opposed to non-farm enterprises or common property resource collection. The difference between self-employment in farming and wage work appears only partly to be transitory and is not driven by particular types of wage work; rather it applies across many different types of jobs. The effect of self-employment in farming is strongest when income and other intermediate outcomes are controlled for but is also significant when they are not. These findings highlight the psychological cost associated with the transition from working on family farms to wage work and self-employment in non-farming. This merits attention when policy makers and others attempt to adopt a comprehensive view of the costs and benefits of development and points to the

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

[2] See e.g. Khanemann and Deaton (2011), Layard (2006), Layard (2005), Diener (2000), Veenhoven (2005), Clark and Oswald (1994), Blanchflower and Oswald (2004). Papers focusing on developing countries include Deaton (2008), Graham and Petinatto (2002), Graham (2005a, 2005b), Brockmann et al. (2008) and Knight and Gunatilaka (2010).

[3] See, World Development Indicators at http://data.worldbank.org/

importance of finding ways to reduce the psychological costs associated with structural transformation.

The findings also potentially contribute to explaining earnings gaps between formal and informal sectors of the economy and between agriculture and other sectors. The presence of such differences is a key observation behind classic models of economic development, such as Lewis (1954), Ranis and Fei (1961) and Todaro (1969). Earnings differentials have been explained as the result of transport frictions, minimum wages, union bargaining, unemployment and other factors (e.g. Stiglitz 1974; Teal 1996). Differences in intrinsic utility associated with different types of employment are an alternative or complementary explanation.

We also find a strong correlation between income and happiness. Yet, this correlation appears to be driven more by relative than by absolute income. Therefore, the direct effect of aggregate income growth on happiness may be weak. At the same time, there are significant effects of health, education and social networks (especially membership of the Communist Party) on happiness. In general, results are very much in line with those from countries with entirely different cultures and levels of economic development.

The study is organized as follows: Section 2 presents definitions and measures of subjective well-being. Section 3 discusses the potential effects of self-employment in farming on happiness. In Section 4 we describe the data set in detail. Section 5 presents the variables used and discusses identification. Section 6 provides descriptive statistics. Section 7 presents regression results on the effects of self-employment on happiness while Section 8 discusses the effects of various control variables. Section 9 concludes.

2 Defining and measuring subjective well-being

Subjective well-being has been studied by scholars in a number of different fields including psychology, sociology and, more recently, economics. As a consequence, 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: (i) subjective to the individual, (ii) measuring not just the absence of negative feelings but also the presence of positive emotions, and (iii) involving a global assessment 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. Our concept of happiness is based on these definitions.

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 sometimes measured through a single, overall question (single-item measure), and sometimes by an index of answers to questions about subjective well-being in different life domains, such as occupation and marriage (multiple-item measure). Non-self-reporting techniques have also been applied, especially by psychologists. These 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-reporting measures and self-reported measures of subjective well-being correlate quite strongly. This suggests that both types of measures are valid approaches to assessing well-being among individuals.

The measure applied in this study was collected in a survey, described in detail in what follows, 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: (i) Very pleased with your life; (ii) Rather pleased with your life; (iii) Not very pleased with your life; (iv) Not at all pleased with your life'; respondents choose one answer.

This question is closely related to the one developed and used by Gurin et al. (1960) to evaluate mental well-being in the United States.[4] 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 may vary greatly across cultures and over time, implying that the appropriate weights for different items also vary.

3 Self-employment, agriculture and happiness

Self-employment may have both positive and negative effects on subjective well-being. On the one hand, self-employment often decreases the stability and predictability of a person's or household's income stream, relative to wage work, and this may decrease well-being. On the other hand, as pointed out by Benz and Frey (2008a), self-employment may generate procedural utility because it is associated with higher independence and less hierarchy. In a developing, rural society, self-employment in traditional occupations, such as agriculture, may not be equivalent to self-employment in modern occupations. In particular, because traditional values and life styles are closely associated with agriculture, employment in farming may increase individuals' sense of purpose, freedom and meaning of life. In a study on religion and subjective well-being, Diener et al. (2010) find that the experience of purpose and meaning are significant determinants of happiness.

If self-employment in farming is indeed associated with higher, intrinsic utility than other types of employment, then this may contribute to explaining the observed earnings gaps between 'traditional' and 'modern', or formal and informal, sectors of the economy, given that the traditional, informal sector is often dominated by small farmers. From this perspective, earnings premiums in the modern/formal sector are partly explained as compensation for intrinsic disutility associated with the types of work that dominate this sector.

A number of papers address the effects of self-employment on happiness or (more commonly) job satisfaction.[5] No studies, to our knowledge, distinguish between self-employment in agriculture

[4] The original question asked by Gurin et al. (1960) 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 are investigated in Larsen et al. (1985).

[5] A large number of papers have addressed the consequences of *unemployment* for subjective well-being (see e.g. Clark and Oswald 1994; Winkelmann and Winkelmann 1998; Blanchflower and Oswald 2000; Di Tella et al. 2003; Layard 2005), usually documenting significant, negative effects. As explained below, the data available here is not well-suited for studying unemployment.

and in other sectors. Studies from western, developed countries tend to find positive effects of self-employment on happiness and particularly job satisfaction. Benz and Frey (2008a, 2008b); Blanchflower and Oswald (1998), Blanchflower et al. (2001), Blanchflower (2004), Andersson (2008), Fuchs-Schündeln (2009) and Alesina et al. (2004) all document such effects. In Alesina et al. (2004), however, the positive effect of self-employment is only present among the relatively well-off. Results on occupation and subjective well-being in developing and in transition countries are more mixed. Benz and Frey (2008b) examine the effects of self-employment on job satisfaction in 23 countries, of which two are developing (the Philippines and Bangladesh). They find positive effects of self-employment in both countries. Blanchflower (2004) uses data from 78 countries in the World Values Survey (WVS) and presents pooled regression results on the effects of self-employment on life satisfaction. The estimated effect is positive but insignificant. The paper reports that in country level regressions, the effect of self-employment on happiness is significant in 12 countries, including some but not all developing countries in the sample. Falco et al. (2012) use data from urban Ghana and find that those self-employed with at least one employee are significantly more happy and satisfied with their work than those working for a wage in the formal sector. Graham (2005a) presents results on the effect of self-employment in both Russia and Latin America (using a pooled sample from the *Latinobarometro* survey in the latter case). She finds that in Russia, the self-employed are on average happier than wage workers, whereas in Latin America the self-employed are less happy. Graham and Pettinatto (2002) use data from 17 Latin American countries and show that being self-employed has no significant effect on happiness among the relatively wealthy. For respondents in the middle and poor categories, on the other hand, the effect of self-employment is significant and negative. 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. Both Falco et al. (2012) and Fuchs-Schündeln (2009) stress that, while the average effect of self-employment is positive, there is substantial heterogeneity within each employment category. This paper follows up on these conclusions by considering heterogeneity across different types of self-employed (farmers and non-farmers) and also across different types of wage workers (see Section 7 below).

4 Data

Our empirical analysis is based on the 2012 wave of the Vietnam Access to Resources Household Survey (VARHS), implemented in the rural areas of 12 provinces in Vietnam between June and August 2012. VARHS 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.[6] 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, and five provinces are covered by the Agricultural and Rural Development (ARD) programme. The provinces supported by ARD are located in the north-west and central highlands, so these relatively poor and sparsely populated regions are over-sampled.[7] The VARHS was also implemented in 2002, 2006, 2008 and 2010, but

[6] 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.

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

the question on subjective well-being that we focus on here was only introduced in 2012. Therefore, analysis and results presented here 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 subjective well-being 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. This information is much more detailed than in surveys such as the Gallup World Poll and the WVS, which have been used in many studies of happiness (e.g. Helliwell et al. 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. Also, community level data is collected in a separate Commune questionnaire. Some of these data are used as exogenous predictors (instruments) of self-employment in what follows.

5 Variables

Our main purpose is to investigate the effect of employment category on subjective well-being. We run regression models of the following type:

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

where H_i is respondent i's answer to the subjective well-being question described in Section 2; S_i is a vector of indicators for employment category; and X_i is a vector of other variables that may affect subjective well-being. 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. B, γ and λ are vectors of coefficients to be estimated.

In terms of employment category, we distinguish between self-employment, wage work and no employment. The vast majority in the last category are either too old or too sick to work. Only very few are 'unemployed' in the sense of desiring a job without being able to find one. Therefore, this dataset is not suitable for studying the effects of unemployment. We distinguish between self-employment in farming, in non-farm enterprises and in collection of common property resources (CPRs).[8] Among wage workers, we distinguish between skilled and unskilled workers, between formal and informal sector jobs, between public, private and state-owned enterprise (SOE)

[8] A minority of non-farm enterprises (about 5 percent) trade in agricultural products and in that sense belong to the agricultural sector. Therefore, self-employment in *farming* (working on one's own family farm) is not entirely equivalent to self-employment in *agriculture*, which includes non-farm enterprises trading in agricultural products. We focus on the former category.

It might be considered to group farmers and CPR collectors together, since both types occupation are tied to traditional, rural lifestyles. Within traditional societies, however, the differences between these two groups are quite profound. CPR collection is essentially 'hunting and gathering', historically a fundamentally different livelihood strategy than farming. Operating a farm may imply considerably higher social recognition and economic security than relying on common property resources. We therefore keep the two categories apart.

employment, and between different sectors of work (agriculture, manufacturing etc.). Classification is based on respondents' 'main' source of employment, defined as the occupation they spend most time in.

Because the main aim of the analysis is to identify the difference in happiness between self-employed and wage workers, respondents with no employment are excluded from the estimation sample. Results are very similar when these respondents are included (and a dummy for not being employed is entered in the regressions).

Control variables

A large number of additional, explanatory variables (X_i) are included; these function as control variables and thereby help identify the effect of employment category on happiness but they are also of great interest in their own right.

Income: While the effect of income on happiness has been intensely studied in a variety of papers, conclusions remain 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, which was advanced in a seminal paper by Easterlin (1974), 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'. Opponents of the relative income hypothesis include Hagerty and Veenhoven (2003) and Stevenson and Wolfers (2008), who present empirical evidence that increases in absolute income for individuals, as well as for countries as a whole, do have a significant, positive effect on happiness. Cross-section studies generally find a positive relationship between income and happiness. 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, subjective well-being has decreased over the past three decades despite a rise in average income per capita (see e.g. Blanchflower and Oswald 2004). Veenhoven (1991, Veenhoven and Ehrhardt1995) argues 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 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 subjective well-being.

Income is measured in great detail by our survey instrument. VARHS collects data on income from crop agriculture, livestock, aquaculture, common property resources, wage employment, non-farm enterprises, transfers and rentals. These data were 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.

Landlessness: Partly as a corollary of structural transformation, 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 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. 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: Several papers have looked into the relationship between education and happiness (see e.g. Hartog and Oosterbeek 1998; Peiro 2006). The majority of studies find a positive effect of education on happiness (Layard 2005; Becchetti et al. 2006; Hayo and Seifert 2003). Education may influence subjective well-being through different channels such as interesting occupations (Blanchflower and Oswald 1994), improved health or better marriage opportunities (Hartog and Oosterbeek 1998). Nevertheless, Inglehart and Klingemann (2000) find no significant effects of education on happiness. Clark and Oswald (1996) find a negative relationship between education and happiness, interpreted as the effect of educated people having job aspirations that are more difficult to fulfill. Effects of education on happiness tend to be moderate in magnitude. Witter et al. (1984) find that education accounts for just 1 to 3 percent of the variance in subjective well-being in the United States. Our measure of education is the number of years of schooling.

Health: 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 subjective well-being by Mehnert et al. (1990) find that people with a disabling condition have significantly lower subjective well-being than a control group of non-disabled individuals. Panel data results from Germany and Britain presented in Helliwell et al. (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 et al. 2012).

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.[9]

Fertility: 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 higher levels 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). We include a measure of the number of children in the household below 15 years.

Family structure: 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

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

China using a national household survey. They find that being married has a statistically significant, positive effect on happiness in rural areas, while divorce and widowhood has a significant, negative impact (single, never married is the reference category). Helliwell et al. (2012) review several studies that investigate the relationship between happiness and marriage. All studies, across Europe, the United States, Asia, Russia and Latin America, show that married people are happier than those divorced, single or widowed.

Migration: Structural transformation typically 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 weaken ties with family members and friends. While migrants and their mental and physical health have been widely studied, fewer studies have looked at migrants' subjective well-being. This is primarily due to a lack of data on migrants' 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 subjective well-being is attributed to a decline in satisfaction with the living environment. Knight and Gunatilaka (2010) find that migrants from rural China living in urban areas report lower happiness than 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 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 concluded 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 is associated with less depression among the parents (controlling for background characteristics, wealth and health).

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

Social networks: The nature of social networks changes profoundly as economies develop, partly as a consequence of the transformations 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 in importance relative to informal groups. While the effects of these changes on happiness are difficult to predict, other studies clearly demonstrate that social networks, or 'social capital', may affect subjective well-being to a substantial extent. For example, results from the United Kingdom suggest that frequent socialization such as attending social gatherings and cultural events and regularly visiting friends and family have a positive effect on satisfaction with life (Powdthavee 2008).

The VARHS includes detailed, individual level data on membership of formal groups. 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 public 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 household 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 our data in the past year is 15.

Risk and shocks: The types of risk and shocks households face change 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. Clark and Oswald 1994; Di Tella et al. 2001; Frey and Stutzer 2002). 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 death of a loved one or a divorce will cause a permanent fall in subjective well-being.

The VARHS 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 these is health shocks, already mentioned above. Another is shocks caused by natural disasters, such as drought or flooding. A third group of shocks include effects caused by pest infections, crop disease or Avian Flu. A fourth group is 'economic shocks', which includes adverse price changes, unemployment, failure of an investment and land loss.[10] A fifth category captures the few shocks that do not belong in any of the four categories just listed.

Age, gender and ethnicity: We also control for gender and age, two standard variables in happiness models, and for 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 include an indicator for being the household head due to the composition of the sample where household heads are over-represented.

Among the large set of control variables, it is important to distinguish between two types of variables. 'Background variables' are exogenous to employment. These variables may affect employment and could also directly drive happiness. 'Intermediate variables', on the other hand, are potentially affected by employment and therefore may mediate a causal effect from employment to happiness. Background variables include age, gender, ethnicity, place of birth and schooling. All other variables are viewed as 'intermediate'. Controlling for background variables allows us to identify the total, causal effect of employment category on happiness, including indirect effects that operate through income, risk exposure, social networks and so on. Controlling for background as well as intermediate variables leads to identification of the *direct*, or 'psychological', effect of employment category on subjective well-being. Estimating the

[10] It would in principle be interesting to investigate the specific effects of unemployment, land loss and so on separately, especially in light of the rich literature documenting a negative effect of unemployment on happiness (see above), 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.

psychological effect of employment is the main target of the analysis but estimates of the total effect (psychological plus indirect effects) are also of interest.

The purpose of these analyses is to investigate the effects of employment category on subjective well-being. In some cases it is relevant to speculate that causality may also run in the other direction. For example, people with a positive outlook may be more likely than others to start their own business. Blanchflower and Oswald (1998) investigate the influence of a range of exogenous, psychological characteristics (measured in childhood) on the probability of becoming self-employed and find only weak effects. This suggests that the effect of happiness on self-employment may also be weak. Nevertheless, to take account of the possibility of a reverse link from happiness to self-employment, we implement an instrumental variables analysis, where self-employment is instrumented by commune level characteristic, which are exogenous to the psychological characteristics of respondents. In particular, the set of instruments include (a) the commune level share of self-employment in total employment, (b) wage rates for two common wage jobs (harvesting and construction), separately for males and females and (c) a dummy for the presence of 'craft villages' (villages with a tradition for a particular craft, e.g. basket weaving or pottery). The ideas behind this strategy are that (i) the probability of being self-employed depends on the overall prevalence of self-employment in one's area of residence, (ii) higher wages provide an incentive to take up wage work and (iii) craft villages provide additional opportunities for self-employment.

Some control variables, such as income, health or marital status, may also be affected by happiness. We do not attempt to instrument these, but highlight the fact that studies using panel data have documented causal relationships *from* these variables *to* happiness (see e.g. Clark and Oswald 1994; Blanchflower and Oswald 2004, Helliwell et al. 2012).

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. A total of 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 large and may be viewed as a cause for concern.[11] However, since the question formulation and sampling are somewhat different from most other surveys, comparison of the measured level of 'happiness' measured is not trivial. It is even more interesting to study explanations for the observed variation.

Table 1 presents descriptive statistics on the explanatory variables discussed above, and on subjective well-being. 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 value on row variable' and 'high value on row variable' 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' is zero and 'high' one. For other variables, 'low' is at or below the median value, whereas 'high' is above the median. For example, the first row shows that among wage workers, 51 percent are rather or very pleased with life. The corresponding share for non-wage workers is 53 percent. The sixth row (income per capita) shows that 41 percent of those with below-median income, and 63 percent of those above the median, are rather or very pleased with

[11] 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.

life. Stars indicate whether the difference in subjective well-being between 'low' and 'high' groups is statistically significant.

The table does not reveal strong effects of employment category. The happiest group includes those self-employed in non-farm enterprises. However, these results include the indirect effect of employment on income, health, social networks and so on, in addition to the direct, psychological effect we are interested in. They also do not account for the fact that many underlying factors that may affect employment category, such as gender, age and schooling, also have direct effects on happiness. The tables below show that results change very significantly when these factors are controlled for.

Table 1 shows a number of other interesting results. The strong correlation between income and happiness is a standard finding in cross-sectional, household level analyses. Yet, it is still noteworthy, and in-depth analyses of the effects of income are presented in Section 8.

Table 1 also shows that ethnic Kinh respondents are 11 percentage points more likely to be happy (rather or very pleased with life) than non-Kinh. We analyse below whether this large difference is driven by differences in development outcomes, or whether there is a direct effect of ethnicity. Respondents with high levels of schooling are happier than to those with little schooling and there is a huge, positive effect of Communist Party membership. As expected, respondents hit by shocks are 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 not straightforward 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 Regression analysis of self-employment and happiness

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 answer categories, we exploit all the information collected on subjective well-being. The measure is an ordinal scale variable. Therefore, we estimate ordered probit regressions (except regression 5). Results from ordinary least square (OLS) regressions are qualitatively very similar and presented in the Appendix. Standard errors are adjusted for commune level clustering. All regressions include province dummies (not shown). Results with commune fixed effects are remarkably similar and presented in the Appendix.

Consider first the respondent's type of employment. The reference category is wage work. Regressions 1, 3 and 5 include a dummy for self-employment, while regressions 2 and 4 sub-divide the self-employed into the three sectors discussed above, own farm, non-farm enterprises and CPR collection. In addition to the employment indicators, regressions 1 and 2 include background variables and province dummies, while regressions 3 and 4 include background and intermediate variables as well as province dummies. Regression 5 is an instrumental variables model, discussed below. Regressions 1 and 3 both show a statistically significant, positive effect of self-employment, similar to the results from western countries discussed above. The effect is stronger in model 3 than in model 1. This reflects the negative correlations between self-employment and some of the factors with a positive effect on happiness, such as income and Communist Party membership. In other words, the indirect effects of self-employment on happiness are negative.

Regression 2 shows statistically significant, positive effects of self-employment in both farm- and non-farm enterprises, while self-employment in CPR collection is positive but insignificant. However, regression 4 reveals that the direct (psychological) effect of self-employment on happiness (i.e. the effect that does not operate through income, Party membership or other factors) is largely driven by self-employment in farming. The indirect effects of self-employment appear to be negative for own farm- but positive for non-farm enterprises. This reflects, among other things, the fact that average income is higher for wage laborers than for those self-employed in farming, but lower than for those operating non-farm enterprises.[12] The large difference between the effects of self-employment in farming and in non-farm enterprises suggests that in the context of rural Vietnam, the psychological effect of self-employment is not driven by 'independence' as such, as suggested by Benz and Frey (2008a), but rather by independence in a particular environment, namely that of the family farm.

Regression 5 presents the results of an instrumental variables (IV) analysis where self-employment is instrumented by commune level self-employment, wage rates and the presence of craft villages, as discussed above. We are not aware of methods to deal with endogenous regressors in the ordered probit model and therefore estimate a two-stage least squares regression. The first-stage regression is a linear probability model for self-employment. The bottom lines of the table present tests of instrument quality. First, the Hansen J test supports the assumption of instrument exogeneity. Second, the Kleibergen-Paap LM test rejects the hypothesis of under-identification (although only at the 10 percent level), suggesting that the instruments are relevant (Kleibergen and Paap 2006). The Kleibergen-Paap F statistic is useful for judging whether instruments are weak. The value of the F-statistic is only 2.2. Comparison with the critical values in Stock and Yogo (2005) suggests that the instruments are quite weak and that point estimates as well as inference may therefore be biased. Therefore, the results in regression 5 should the treated with some caution. Nevertheless, it is interesting that the estimated coefficient on self-employment remains positive and statistically significant. This does lend further support to the hypothesis of a causal effect from self-employment to happiness. We do not have sufficiently strong instruments to separately identify the effects of self-employment in farming, non-farm enterprises and CPR collection in an IV model.

Table 2 establishes a large difference in happiness between those self-employed in farming, and wage workers. As discussed above, this difference is particularly interesting because large numbers of people are going to shift from employment on family farms to wage work in the coming decades. Tables 3 and 4 explore in more detail what drives the negative effect of working for a wage. Table 3 presents the distribution of wage workers across sectors, showing that services and construction are the largest sectors, while substantial numbers also work in agriculture and manufacturing. Table 4 presents additional regression analyses. The regressions include the same control variables as in regressions 3-5 in Table 2, but these estimates are not reported. Note that the reference category for employment is now *self-employment on own* farm, rather than wage labor. This allows us to investigate the effects of different types of wage labor in detail. The table first introduces interactions between employment categories and age. In the interaction terms, age is entered as deviation from mean age. This is to ensure that the main effects of employment category continue to have interesting and meaningful interpretations (they show the effect for persons at age equal to the mean). The idea is that the negative effect of wage labor could be driven by older respondents, whose values may be more closely linked with traditional, rural life than is the case

[12] Median, annual income per capita is 7,8 mill. VND for self-employed farmers, 7,9 mill. VND for those self-employed in CPR collection, 10,2 mill. VND for wage workers and 14.6 mill. VND for those self-employed in non-farm enterprises.

for 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, the interaction term between wage labor and age is not significant (p=.15) and, based on the point estimates, the effect of being a wage worker is negative among all adult age groups. On the other hand, the negative effect of working in own non-farm enterprises is only present among older respondents. The interaction term between age and employment in own non-farm enterprise is significant and the point estimates imply that the effect of being a non-farm enterprise operator, relative to working on a family farm, is only negative for a person older than 33 years.

Regression 2 investigates whether the negative effect of wage labor is transitory or permanent. The regression includes indicators for being wage worker (a) now, (b) two years ago and (c) both now and two years ago (similarly for self-employment in non-farm enterprise and CPR collection). The data on employment two years ago was collected in the 2010 wave of the VARHS survey. Data are therefore only available in those cases where the individual respondent, who answered the question on happiness in 2012, was also present in the household in 2010. This reduces the sample size somewhat.[13] Results show that the coefficient on current wage labor remains negative and statistically significant, while the coefficient on wage employment in both 2010 and 2012 is positive, with approximately half the numerical value of the coefficient on current wage work. In other words, the negative effect of wage labor is twice as high for those who turned to wage work recently (within the last two years) as for those who worked for a wage longer. This suggests that the effect of wage work is partly transitory. Yet, it takes more than two years to fully eliminate it. There is no evidence that the negative effects of self-employment in non-farm enterprises dissipates over time.

Regressions 3 to 6 divide 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. Therefore, upgrading the educational level of the labor force may not necessarily eliminate the psychological cost of wage labor.

Regression 4 splits the wage workers into formal and informal sectors. A 'formal job' is defined as one with a written labor contract (32 percent of those classified as wage workers are in the formal sector). The estimated effects are significantly negative for both sectors, although the point estimate is larger for informal sector workers. Although this difference is not statistically significant (p=.16), the results give some indication that informal sector jobs are associated with lower, subjective well-being than formal sector ones.

Regression 5 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 (the correlation between informal jobs and private sector jobs is quite high, r=.70). Although the difference between public and private sectors is not statistically significant (p=.29), it may indicate that somewhat higher disutility is associated with private than with public sector jobs.

Regression 6 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 do not appear to be tied to agriculture

[13] Individual respondents are matched on age and gender.

and it is unlikely to be eliminated by changes in the sectorial composition of the economy. On the other hand, the statistically significant, negative effect on wage work in agriculture also shows that it is not agriculture as such that drives happiness – it is working on one's own family farm that makes a significant difference.[14]

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 work appears to be accounted for by features shared by many types of jobs.

8 Results on control variables

Many of the results on control variables are interesting in themselves, especially given the scarcity of happiness analyses in Vietnam and elsewhere in developing countries. We therefore discuss these results in some detail and provide comparative perspective.

Gender: The effect of being female is negative but only statistically significant in regressions 1 and 2, where the point estimates are also substantially higher than in regressions 3-5. This suggests that the negative effect of being a woman to a large extent works through the additional variables added in regressions 3 to 5, such as income and marital status (in the case of married couples, the husband is often the questionnaire respondent). The negative effect of being a woman is consistent with other results from developing countries (see e.g. Senik 2004; Graham and Pettinatto 2002). In contrast, the majority of studies of happiness in economically advanced countries show that women have a higher average level of subjective well-being than men (see e.g. Helliwell et al. 2012).

Age: The effect of age is U-shaped in all regressions, although the coefficient estimates are only statistically significant in regressions 3-5 (the trough is at 45 years in regression 4). The U-shaped relation is in line with findings in most studies on subjective well-being and age (see e.g. Deaton 2008).

Ethnicity: In contrast with Table 1, the regressions in Table 2 show no statistically significant effect of belonging to the Kinh ethnicity. Therefore, the positive effect of being Kinh in Table 1 appears to be driven by differences in development outcomes, such as income and education, between ethnic minority and majority groups.

Schooling: There is a statistically 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). This effect may stem from acquirement of knowledge, status in society, being able to participate in social and cultural activities without feeling shame and increased self-esteem.

Income: The effect of income is strong and statistically significant in all regressions that include this variable. This is consistent with results from a number of other countries (see above), but does not reveal whether it is absolute or relative income that matters and whether the level of income

[14] We could also split the self-employment in non-farm enterprise category into enterprises in different sectors. However, since the number of respondents with non-farm enterprises is relatively small, it is difficult to estimate the separate effects of enterprises in different sectors precisely.

is more important than the growth rate. To explore these issues, Table 5 presents regressions with additional, income related variables. In particular, median commune income (among the respondents in the sample from the same commune) and (in regressions 3 and 5) income in 2010 are included. Because the VARHS sample was expanded with about 500 households in 2012, the reliance on 2010 data implies a drop in the number of observations. Results are therefore shown both with and without the 2010 income variable, in the latter case for the full 2012 sample. Median commune income is more precisely estimated when more households are sampled in a commune. The number of observations varies considerably across communes and to focus on communes with relatively precise estimates of median income, regression 5 includes only communes with at least ten observations.[15] Regression 1 in Table 5 includes only province fixed effects, in addition to the income variables. The other regressions in the table include the same set of control variables as regression 4 in Table 2, including self-employment dummies.

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 income in the past is more difficult to predict. If consumption is determined by 'permanent income' (average lifetime income), and happiness is driven by consumption, then a positive effect is expected. All else equal, higher income in the past means that lifetime income is higher. Consistent with this line of reasoning, Deaton (2008) find in country level regressions that conditional on current income per capita, recent economic growth (equivalent to low income in the past, relative to the present) 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 negative effect of income in 2010 is expected, conditional on 2012 income.

Results in Table 5 show a strong and highly statistically significant, positive effect of own, current income, as in Tables 1 and 2. As expected, the effect of median commune income is negative, significant at the 10 percent level in regressions 1 and 2 and at the 5 percent level in regressions 3, 4 and 5. In regressions 1 to 3, the point estimate for median commune income is clearly, numerically lower than the estimate for own income, implying that an overall increase in income (economic growth) increases happiness. However, 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 4, where only communes with more precise measures of median income are included. In this regression, the point estimate on median commune income increases significantly and is numerically almost equal to the coefficient on own income. The sum of the coefficients on own and commune income in this regression (and in regression 5) is not statistically significantly different from 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 indirect positive effects on happiness if higher income facilitates improvements in these variables.

The effect of income in 2010 is positive and statistically significant. This is consistent with the macro-level results in Deaton (2008) and with the permanent income interpretation but

[15] 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 2002 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.

inconsistent with the view that the experience of improvements in income is in itself a positive factor for happiness. An alternative interpretation is that income is measured imprecisely and that both 2010 and 2012 data include independent information on *current* income.

Landlessness: We now return to Table 2. The coefficient on the dummy for landlessness is insignificant in all regressions. This indicates that there is no statistically significant, psychological cost associated with being landless in rural Vietnam. This may be somewhat surprising but is consistent with results in Ravallion and van de Walle (2008). They 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 rational behavior aimed at exploiting emerging opportunities in the non-farm economy.

Health: Both indicators of health (working days lost due to illness during the last year and health shocks to the respondent's household in the last two years) have statistically significant, negative effects in regressions 3-5. 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 2 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 rural Vietnam. However, it is important to note that the positive effect of marriage on happiness is a regular finding in many other studies – most of them from developed countries (see Section 5). Therefore, the negative effect of being single may not be eliminated by modernization.

Fertility: The effect of children in the household is insignificant in all specifications. 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, statistically significant effect of being a member of the Communist Party. Note that this also holds when income, type of occupation, health and so on are controlled for. 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, see Knight and Gunatilaka (2010).

There is also a statistically significant and positive effect of mass organization membership, although the point estimate is much smaller than for party membership. Membership of other organizations is positive, but not significant. The measure of informal networks, wedding attendance, is positive and statistically significant in all specifications. Overall, the results demonstrate positive effects of 'social capital' on happiness.

Migration: Respondents in households with a 'migrant' background (i.e. where the head is not born in the commune of residence) are less happy than others, but there are no statistically significant effects of a household member having permanently or temporarily migrated to another commune. In general, the results on migration are ambiguous: there may be a psychological cost attached to

living away from one's birthplace, but migration appears not to have strong, negative effects on the households that send migrants.

Shocks: The statistically 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 statistically significant, bivariate correlations between happiness and all types of shocks (except 'other shocks'). On the other hand, there is a 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). It suggests that economic shocks are not only important because they imply income losses, but also because they may lead to decreased social status, or change in expectations about the future.[16]

Headship: No significant effects of being household head emerge. This reduces concerns about the effects of household heads being over-represented in the sample.

9 Conclusions

Focusing on rural Vietnam, this study has documented a significant, positive effect on happiness from self-employment on family farms, relative to self-employment in non-farm enterprises and, particularly, wage labor. The positive, direct effect of self-employment in farming is partly but not fully offset by negative, indirect effects working through income, social networks and other variables. The negative effect of wage labor, relative to work on own farm, applies across a wide range of jobs. The effect is present for both younger and older workers, although it is somewhat stronger for older respondents. The negative effect of wage labor appears to be partly transitory but has not vanished after two years of wage employment. The positive effect of self-employment on happiness is consistent with results from western countries, the main difference being that the effect in rural Vietnam is driven mainly by self-employment in farming, rather than other sectors.

As a result of structural transformation, very large numbers of people in Vietnam and in other developing countries are going to make the transition from self-employment in farming to wage work and self-employment in non-farming over the coming decades. The results of this study show that there is a significant, psychological cost associated with this shift, consistent with observations of earnings premia in 'modern' and 'formal' sectors, which tend to be dominated by wage work in non-agriculture.

Labor markets in developing countries are often viewed as 'segmented' ('dual' in the case of two sectors), in the sense that there are barriers to movement from one sector to another (Fields 2011). The natural policy conclusion is that barriers (poor infrastructure, discrimination, rules and regulations etc.) should be removed. The primary indicator of segmentation is large differences in the earnings of comparable workers across sectors (Wachter 1974; Cain 1976). The results presented here suggest that such differences are not sufficient to conclude that the labor market is genuinely segmented. Earnings differences may exist to compensate for differences in intrinsic (procedural) utility. If anything, our results suggest that earnings differences are *too small* to compensate wage workers. The psychological burden of economic development is significant and

[16] More detailed analyses suggest that the effect of 'economic shocks' is in the present case mainly driven by failed investment projects, rather than unemployment and land loss.

policy makers and employers should consider how this burden may be addressed, for example by securing limits to working hours, appropriate education and training, and protecting the right to holidays and decent working conditions for wage workers.

One limitation of our study is that it covers rural areas only. Many of the people who shift from farming to other types of employment move from rural to urban areas. Would the inclusion of urban people in the sample change our results? Results from China, which shares many similarities with Vietnam, suggest that it might not. Both Brockmann et al. (2008) and Knight and Gunatilaka (2010) report that in spite of a large income advantage, urban Chinese report *lower* levels of happiness than their rural countrymen.

Apart from the findings on self-employment, other results of the study are also of interest. First, we find 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 the results from other sources, some of which show substantially higher levels of happiness in Vietnam (World Values Survey 2001, 2006). It is nevertheless a cause for concern that 48 percent of respondents here report being 'not very' or 'not at all' pleased with their lives. Second, a strong, positive effect of own income on happiness is documented. 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 other hand, there are statistically significant, positive effects of health and education on happiness. In this sense, economic growth is beneficial for subjective well-being, to the extent that growth facilitates improvements in health and education.

We also find statistically significant, positive effects of formal and informal social networks, and negative effects from having a migrant background, from economic shocks and from being single, widowed or divorced.

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 self-employment, relative income, marital status, health, schooling, age and social capital are very similar to those reported for developed, western countries (see e.g. Helliwell et al. 2012; Veenhoven 2012).[17] 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.

[17] Gender is an exception. While studies in western countries tend to find positive effects of being female, the opposite effect emerges here.

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Table 1: Descriptive statistics and bivariate correlations with subjective well-being

			Share 'rather' or 'very' pleased with life	
Variable	*Mean*	*Median*	*Low value on row variable*	*High value on row variable*
Main occupation				
Wage worker	0.24		0.53	0.51
Self-employed, agriculture	0.49		0.53	0.52
Self-employed, non-farm enterprise	0.13		0.52	0.59**
Self-employed, common property ressources	0.02		0.53	0.42
None	0.13		0.53	0.52
Income per capita, '000 VND	13,273	9,640	0.41	0.63***
Median commune income, '000 VND	11,034	10,339	0.49	0.56***
Days worked in last year	156	150	0.52	0.54
Landless	0.09		0.52	0.53
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	1.02	1	0.53	0.51
Kinh	0.79		0.43	0.55***
Marital status				
Married	0.82		0.43	0.55***
Never married	0.03		0.53	0.46
Widowed	0.13		0.54	0.44***
Divorced or separated	0.02		0.53	0.31***
Member of Communist Party	0.06		0.51	0.75***
Member of mass organization	0.55		0.50	0.55*
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	0.46*
Pest infection, crop disease or avian flu	0.23		0.55	0.45***
Economic (unemployment, loss of land etc.)	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 last year	12.2	0	0.57	0.49***
HH head born in commune	0.70		0.52	0.53
HH member migrated permanently	0.08		0.52	0.53
HH member migrated temporarily	0.09		0.52	0.62***
Head	0.80		0.54	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) on row variable' means zero (one) on dummy variables and below (above) median on continuous variables. Stars indicate whether the difference in subjective well-being between the two groups is statistically significant. * significant at 10%; ** significant at 5%; *** significant at 1%.

Source: Authors' own calculations.

Table 2: Subjective well-being regressions

	Dependent variable: Subjective well-being (four categories)				
	O-PROBIT	O-PROBIT	O-PROBIT	O-PROBIT	2SLS
	(1)	(2)	(3)	(4)	(5)
Main type of employment (ref. cat.: Wage worker)					
Self-employed	0.187***		0.264***		0.949*
	(0.052)		(0.057)		(0.538)
Self-employed on own farm		0.177***		0.355***	
		(0.055)		(0.064)	
Self-employed in non-farm enterprise		0.227***		0.113	
		(0.080)		(0.086)	
Self-employed in CPR collection		0.04		0.204	
		(0.170)		(0.171)	
Female	-0.122**	-0.124**	-0.071	-0.064	-0.096
	(0.051)	(0.051)	(0.081)	(0.082)	(0.064)
Age in year	-0.013	-0.014	-0.039***	-0.041***	-0.034***
	(0.011)	(0.011)	(0.013)	(0.013)	(0.011)
Age squared*10^(-3)	0.156	0.164	0.438***	0.458***	0.315***
	(0.104)	(0.104)	(0.127)	(0.126)	(0.095)
HH is Kinh	0.025	0.018	-0.101	-0.085	-0.033
	(0.105)	(0.106)	(0.119)	(0.121)	(0.080)
Years of schooling, ln(x+1)	0.262***	0.258***	0.112**	0.113**	0.085**
	(0.042)	(0.042)	(0.045)	(0.045)	(0.035)
Head born in commune	0.139**	0.139**	0.132**	0.141**	0.126**
	(0.060)	(0.060)	(0.061)	(0.060)	(0.049)
Income per HH member, log			0.359***	0.380***	0.150***
			(0.045)	(0.045)	(0.041)
Days worked, ln(x+1)			-0.002	0.033	0.13
			(0.043)	(0.047)	(0.094)
Landless			-0.013	0.038	0.084
			(0.095)	(0.096)	(0.102)
Children below 15, ln(x+1)			0.043	0.060	0.005
			(0.054)	(0.054)	(0.036)
Marital status					
Never married			-0.174	-0.169	-0.108
			(0.144)	(0.143)	(0.110)
Widowed			-0.186*	-0.189*	-0.079
			(0.107)	(0.107)	(0.072)
Divorced or separated			-0.603***	-0.594***	-0.258*
			(0.212)	(0.212)	(0.151)
Member of Communist Party			0.569***	0.560***	0.562***
			(0.115)	(0.114)	(0.147)
Member of mass organization			0.195***	0.181***	0.115***
			(0.062)	(0.063)	(0.043)
Member of group other than party, mass org			0.102	0.095	0.066
			(0.091)	(0.092)	(0.058)
Weddings attended in other HH, log(x+1)			0.139***	0.139***	0.095***
			(0.041)	(0.042)	(0.030)
Shocks to HH in last two years					
Natural disaster			0.019	0.01	-0.033
			(0.086)	(0.087)	(0.072)
Pest infection, crop disease or avian flu			-0.042	-0.055	-0.105*
			(0.061)	(0.061)	(0.055)
Economic (unemployment, loss of land etc.)			-0.261***	-0.267***	-0.171**
			(0.098)	(0.097)	(0.074)
Illness			-0.347***	-0.346***	-0.137**
			(0.091)	(0.091)	(0.062)
Other shock			0.062	0.078	-0.001
			(0.229)	(0.229)	(0.167)

Days unable to work due to illness in last year, log(x+1)			-0.080***	-0.082***	-0.052***
			(0.022)	(0.022)	(0.014)
HH member migrated permanently			-0.041	-0.045	-0.059
			(0.077)	(0.077)	(0.062)
HH member migrated temporarily			0.133	0.134	0.094
			(0.082)	(0.082)	(0.058)
HH head			-0.069	-0.067	0.015
			(0.099)	(0.100)	(0.075)
Province dummies	Yes	Yes	Yes	Yes	Yes
Observations	2,322	2,322	2,202	2,202	1,915
Kleibergen-Paap rk LM statistic (underidentification, p-value in par.)					11.87 (.06)
Kleibergen-Paap rk F statistic (weak identification)					2.17 (.04)
Hansen J statistics (overidentification, p-value in par.)					6.96 (.22)

Note: Regressions 1-4 are ordered probits. Regression 5 is a 2SLS, where self-employed is instrumented by the commune level self-employment, male and female wage rates in harvesting and construction, and the presence of craft villages in the commune. Only employed respondents included. Standard errors adjusted for clustering at the village level. * significant at 10%; ** significant at 5%; *** significant at 1%

Source: Authors' own calculations.

Table 3: Sector of occupation, wage workers

Sector	Percent
Agriculture	16.5
Mining	1.1
Manufacturing	16.8
Construction	29.5
Services	36.1

Note: N = 637. Only respondents with wage work as their main type of occupation are included.

Source: Authors' own calculations.

Table 4: Exploring effect of wage labor on subjective well-being

	Dependent variable: Subjective well-being (four categories)					
	(1)	(2)	(3)	(4)	(5)	(6)
Main type of employment (ref. Cat.: Self-empl. on own farm)						
Wage worker	-0.353***	-0.501***				
	(0.0669)	(0.0878)				
Wage worker*age	-0.00816					
	(0.00565)					
Wage worker two years ago		-0.0747				
		(0.0893)				
Wage worker today and two years ago		0.265**				
		(0.129)				
Unskilled wage worker			-0.353***			
			(0.0737)			
Skilled wage worker			-0.358***			
			(0.0898)			
Formal sector wage worker				-0.234**		
				(0.113)		
Informal sector wage worker				-0.396***		
				(0.0675)		
Private sector wage worker					-0.390***	
					(0.0661)	
Public sector wage worker					-0.255**	
					(0.124)	
SOE wage worker					-0.201	
					(0.253)	
Wage worker in						
Agriculture						-0.312**
						(0.134)
Mining						-0.527
						(0.358)
Manufacturing						-0.410***
						(0.125)
Construction						-0.333***
						(0.0960)
Services						-0.370***
						(0.0957)
Self-employed in non-farm enterprise	-0.241***	-0.262*	-0.242***	-0.231**	-0.246***	-0.247***
	(0.0911)	(0.135)	(0.0926)	(0.0934)	(0.0920)	(0.0917)
Self-employed in non-farm enterprise*age	-0.0168***					
	(0.00555)					
Self-employed in non-farm ent. two years ago		-0.0308				
		(0.138)				
Self-employed in non-farm ent. today and two years ago		-0.0305				
		(0.202)				
Self-employed in CPR collection	-0.0953	-0.371	-0.151	-0.154	-0.156	-0.150
	(0.171)	(0.263)	(0.166)	(0.167)	(0.167)	(0.166)
Self-employed in CPR collection*age	-0.0123					
	(0.00897)					
Self-employed in CPR coll. two years ago		0.190				
		(0.314)				
Self-employed in CPR coll. today and two years ago		0.606				
		(0.548)				
Province dummies	Yes	Yes	Yes	Yes	Yes	Yes
Control variables	As in Table	As in Table	As in Table	As in Table	As in Table	As in Table
Observations	2,202	1,681	2,202	2,202	2,202	2,202

Note: Ordered probit regressions. Standard errors adjusted for clustering at the village level. Only employed respondents included. Regression 3 includes only observations with matched individual respondents in 2010 and 2012. In the interactions with age, age is included as deviation from mean age. * significant at 10%; ** significant at 5%; *** significant at 1%.

Source: Authors' own calculations.

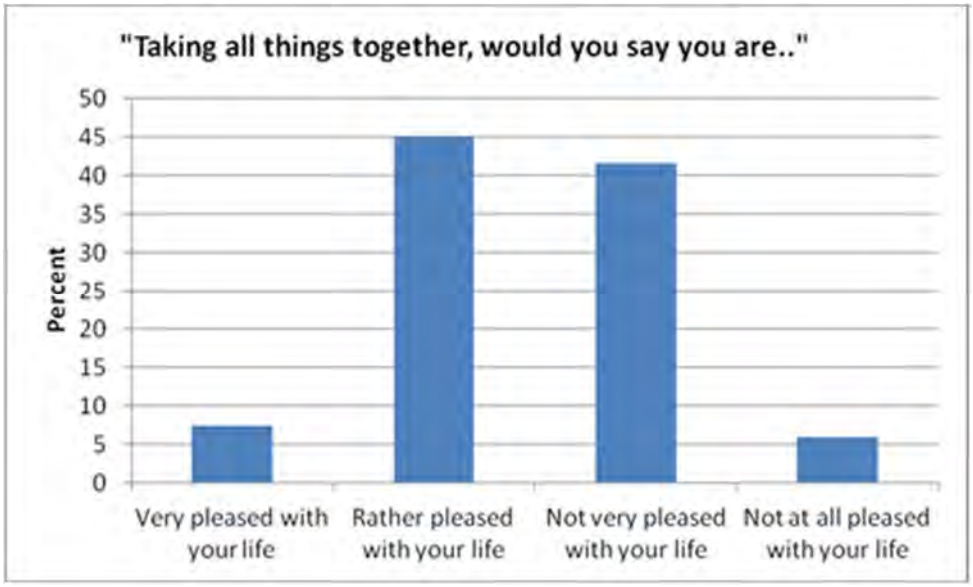
Table 5: Happiness and income

	Dependent variable: Subjective well-being (four categories)				
	(1)	(2)	(3)	(4)	(5)
Income per HH member, log	0.435***	0.418***	0.355***	0.383***	0.289***
	(0.0420)	(0.0469)	(0.0511)	(0.0739)	(0.0816)
Median commune income per capita, log	-0.132*	-0.146*	-0.170**	-0.376**	-0.351**
	(0.0750)	(0.0790)	(0.0821)	(0.174)	(0.170)
Income per HH member, log, 2010			0.145***		0.213***
			(0.0374)		(0.0615)
Province dummies	Yes	Yes	Yes	Yes	Yes
Control variables	No	As in Table 2, reg. 3	As in Table 2, reg. 3	As in Table 2, reg. 3	As in Table 2, reg. 3
Observations	2,202	2,202	1,727	817	716

Note: Ordered probit regressions. Standard errors adjusted for clustering at the village level. Only employed respondents included. Regressions 3 and 5 includes only households interviewed in both 2010 and 2012. Regressions 4 and 5 include only communes with at least 10 obs. * significant at 10%; ** significant at 5%; *** significant at 1%

Source: Authors' own calculations.

Figure 1: Subjective well-being in rural Vietnam



Source: Authors' own calculations.

Appendix

Table A1: Happiness regressions, OLS and commune fixed effects

	Dependent variable: Subjective well-being (four categories)					
	OLS	OLS	OLS	OLS	OLS	OLS
Main type of employment (ref. cat.: Wage						
Self-employed	0.116***		0.151***		0.161***	
	(0.0327)		(0.0331)		(0.0423)	
Self-employed on own farm		0.110***		0.203***		0.237***
		(0.0348)		(0.0375)		(0.0494)
Self-employed in non-farm enterprise		0.142***		0.0645		0.0433
		(0.0503)		(0.0497)		(0.0603)
Self-employed in CPR collection		0.0219		0.113		0.153
		(0.107)		(0.100)		(0.130)
Female	-0.0768**	-0.0780**	-0.0423	-0.0383	-0.0309	-0.0293
	(0.0322)	(0.0322)	(0.0473)	(0.0478)	(0.0565)	(0.0573)
Age in year	-0.00802	-0.00843	-0.0222***	-0.0233***	-0.0162*	-0.0177*
	(0.00670)	(0.00671)	(0.00747)	(0.00743)	(0.00940)	(0.00940)
Age squared*10^(-3)	0.0970	0.103	0.252***	0.263***	0.189**	0.203**
	(0.0652)	(0.0654)	(0.0739)	(0.0733)	(0.0928)	(0.0932)
HH is Kinh	0.0167	0.0122	-0.0569	-0.0474	0.0514	0.0592
	(0.0662)	(0.0666)	(0.0699)	(0.0706)	(0.0935)	(0.0935)
Years of schooling, ln(x+1)	0.165***	0.162***	0.0656**	0.0662**	0.0576*	0.0595*
	(0.0259)	(0.0259)	(0.0264)	(0.0261)	(0.0323)	(0.0316)
Head born in commune	0.0878**	0.0875**	0.0774**	0.0824**	0.0428	0.0489
	(0.0376)	(0.0375)	(0.0353)	(0.0348)	(0.0464)	(0.0455)
Income per HH member, log			0.207***	0.219***	0.230***	0.247***
			(0.0262)	(0.0261)	(0.0310)	(0.0310)
Days worked, ln(x+1)			-0.000779	0.0191	0.0165	0.0437
			(0.0254)	(0.0274)	(0.0306)	(0.0334)
Landless			-0.00756	0.0216	-0.0187	0.0161
			(0.0551)	(0.0558)	(0.0734)	(0.0728)
Children below 15, ln(x+1)			0.0260	0.0355	0.0383	0.0523
			(0.0316)	(0.0316)	(0.0380)	(0.0379)
Marital status						
Never married			-0.100	-0.0969	-0.175*	-0.165*
			(0.0836)	(0.0828)	(0.0962)	(0.0950)
Widowed			-0.106*	-0.107*	-0.124	-0.123
			(0.0620)	(0.0622)	(0.0762)	(0.0771)
Divorced or separated			-0.345***	-0.338***	-0.309**	-0.286**
			(0.121)	(0.120)	(0.134)	(0.131)
Member of Communist Party			0.328***	0.321***	0.334***	0.324***
			(0.0663)	(0.0656)	(0.0844)	(0.0831)
Member of mass organization			0.112***	0.105***	0.0975**	0.0875**
			(0.0361)	(0.0362)	(0.0445)	(0.0440)
Member of group other than party, mass org			0.0602	0.0561	0.0462	0.0405
			(0.0527)	(0.0529)	(0.0643)	(0.0649)
Weddings attended in other HH, log(x+1)			0.0799***	0.0800***	0.0793**	0.0793**
			(0.0242)	(0.0245)	(0.0342)	(0.0348)
Shocks to HH in last two years						
Natural disaster			0.0115	0.00646	-0.0599	-0.0668
			(0.0504)	(0.0506)	(0.0675)	(0.0667)
Pest infection, crop disease or avian flu			-0.0241	-0.0316	-0.0199	-0.0283
			(0.0358)	(0.0358)	(0.0495)	(0.0499)
Economic (unemployment, loss of land etc.)			-0.150***	-0.154***	-0.137*	-0.137*
			(0.0573)	(0.0568)	(0.0734)	(0.0730)
Illness			-0.199***	-0.199***	-0.143**	-0.142**

			(0.0524)	(0.0522)	(0.0630)	(0.0626)
Other shock			0.0383	0.0476	0.0244	0.0326
			(0.134)	(0.134)	(0.170)	(0.170)
Days unable to work due to illness in last year, log(x+1)			-0.0466***	-0.0471***	-0.0314*	-0.0321*
			(0.0128)	(0.0127)	(0.0173)	(0.0173)
HH member migrated permanently			-0.0243	-0.0263	-0.0225	-0.0271
			(0.0447)	(0.0449)	(0.0556)	(0.0558)
HH member migrated temporarily			0.0789*	0.0788*	0.0821	0.0853
			(0.0469)	(0.0467)	(0.0657)	(0.0643)
HH head			-0.0412	-0.0396	-0.0830	-0.0794
			(0.0574)	(0.0580)	(0.0648)	(0.0659)
Fixed effects	Province	Province	Province	Province	Commune	Commune
R-sq	0.071	0.072	0.178	0.181	0.420	0.425
Observations	2.322	2.322	2.202	2.202	2.202	2.202

Note: Standard errors clustered by commune. * significant at 10%; ** significant at 5%; *** significant at 1%.

Source: Authors' own calculations.