Subjective Well-being and its Determinants in Rural China

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1. Introduction

The analysis of 'subjective well-being', also referred to as 'satisfaction with life' or 'happiness', is a relatively new but rapidly growing topic for economists. Literature surveys have begun to appear, including Frey and Stutzer (2002) and Layard (2003). Although economists normally regard perceptions as suspect and want agents' preferences to be revealed by actions rather than to be reported, the literature surveys are upbeat and optimistic. Thus Frey and Stutzer (2002: 431) conclude that '…happiness research is not a futile or eccentric activity but rather can provide relevant new insights …' and, according to Layard (2003) '…the scientific study of happiness is only just beginning. It should become a central topic in social science.'

Very little of the economic research on subjective well-being has so far been on poor countries, and very little has been specifically concerned with issues of poverty. The exceptions include Ravallion and Lokshin (2001, 2002) on Russia and Kingdon and Knight (2003, 2004) on South Africa. We are not aware of research on subjective well-being in China. There is thus great scope for advancing knowledge.

The Chinese economy is characterised by a remarkable rural-urban divide, a subject which the authors have explored at length (Knight and Song, 1999). It takes the form of a great rural-urban disparity in mean incomes and in the provision of such services as education, health and pensions. Despite the economic reforms and the marketisation of the economy - forces which tended to break down the invisible 'Great Wall' between rural and urban China - the ratio of mean incomes has risen, and in 2001 reached a peak of 2.90 to 1; the ratio in terms of consumption per capita was 3.05 to 1. Rural incomes have risen rapidly in real terms in recent years (for instance, by 5.5 per cent per annum between 1990 and 2001), and rural income poverty has been sharply reduced. Nevertheless, the faster growth of urban incomes (by 6.9 per cent per annum over the same period) and the extension of peasant horizons through the media and increased temporary migration may have generated a sense of relative deprivation among rural people. Indeed, there have been newspaper and even official reports of peasant discontent and incidents of rural protest and unrest. It is therefore of interest to discover the levels of

subjective well-being among rural-dwellers, and their determinants.[1]

The opportunity for this is provided by the 2002 national household survey organised by the Institute of Economics, Chinese Academy of Social sciences (IE, CASS) for the research programme on income distribution in China, involving IE, CASS and foreign scholars including the authors. Any economic analysis of subjective well-being requires detailed socio-economic information on households and their individual members, as well as specific well-being questions. The extensive rural household questionnaire contains a well-being module, designed by the authors, which was intended to improve on the questionnaires currently used in well-being research and had specific hypotheses in mind.

The paper is organised as follows. Section 2 briefly describes the rural survey and the variables to be used. It also provides some descriptive evidence, so defining the parameters within which to develop the hypotheses. Section 3 sets out the main questions to be asked and hypotheses to be tested. Section 4 presents the empirical results. Section 5 concludes this report on work that is still in progress.

2. Data and Methods

The rural sample of the 2002 national household survey is drawn from a sub-sample of the National Bureau of Statistics (NBS) nationally representative sample for its national household survey. Our sample covers 22 provinces. Within each province on average 5.5 counties are sampled, and within each county on average 7.9 villages, each containing 10 observation households. In addition to taking information directly from the logbooks for each house compiled by the NBS, further information was gathered for each household, using the usual NBS interviewers.

We provide some descriptive statistics on subjective well-being which will help us to formulate the hypotheses to be tested. About 9,200 households responded to the subjective well-being

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[1] The statistics in this paragraph are derived from PRC, NBS 2002: 295, 319, 321, 347.

questions.[2] There are at least three possible measures of subjective well-being in the data set, varying according to the extent to which their context is an economic one: happiness, satisfaction with living conditions, and satisfaction with household income. These are shown in Table 1. The proportion of respondents opting for the higher two of five possible levels of subjective well-being varies from 61 per cent (happiness) to 44 per cent (living conditions) and to 39 per cent (household income). Rural China does not appear to be hotbed of discontent.

Variation across the income quintiles is, as expected, greatest in the case of household income (where there is a sharp fall in the proportion in the two lowest levels as income per capita rises) and least in the case of the broadest concept of well-being (happiness). Sensitivity to income is present on all three measures but it is nevertheless limited. For instance, in the most extreme case 46 per cent of the respondents in the lowest income quintile are not satisfied or not satisfied at all with their household income and the corresponding figure for the highest income quintile is 27 per cent. There is clearly much more to subjective well-being than absolute household income per capita.

In contrast to this finding, we also find that income is important to those who rate their subjective well-being low. Respondents reporting being unhappy or very unhappy were asked the reason. Table 2 shows that low income was their predominant concern, accounting for 64 per cent of cases. A possible solution to this apparent contradiction is that relative income is important for subjective well-being. People might compare themselves, or their income, either with themselves in the past or with 'relevant others', i.e. their social reference groups.

Respondents were asked to compare their current living standard with that five yeas ago. Table 3 shows that 61 per cent of them now had a higher standard of living and that only 5 per cent had become worse off. It also shows that, among those currently better off, 72 per cent were happy or very happy whereas, among those worse off, the corresponding figure was half that, at 36 per cent. People may thus feel relative deprivation by comparison with their past.

The interviewees were asked about the people with whom they made comparisons. Table 4

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[2] The household head or its main member were asked the questions.

presents the proportions reporting each possible main comparator group and shows how this varies by level of happiness. Most respondents (68 per cent) make comparisons with their neighbours or fellow-villagers; a mere 11 per cent have their main orbit of comparison beyond the village. There is only a weak association with reported level of happiness. However, whereas 40 per cent of the very happy compare with their neighbours or relatives, only 19 per cent of the very unhappy do so; the corresponding figures for fellow-villagers are 37 and 52 per cent respectively, and for comparisons beyond the village 11 and 15 per cent respectively. Wider orbits of comparison are associated with unhappiness.

Our basic method is to estimate subjective well-being (or happiness) functions either of the form

$$W = a + Xb \qquad (1)$$

where W is a cardinal measure of well-being and X is a vector of explanatory variables, or of the form

$$W^i = a + Xb \qquad (2)$$

where W^i is an ordered categorical variable with i categories. Eq. (1) is estimated by OLS and eq. (2) using a multinomial logit estimator.

Ferrer-I-Carbonnel and Frijters (2004) examine the robustness of the literature findings on the determinants of happiness. There are two main methodological issues: whether to treat reported happiness levels as cardinal (as psychologists generally do) or ordinal (as economists generally do); and the influence of the unobserved determinants of happiness. The former issue boils down to whether it is possible to use OLS regression methods (if cardinal) or necessary to use latent variable (ordered logit or probit)methods (if ordinal).The latter issue can be dealt with by using panel data, so eliminating the influence of unobserved time-invariant individual fixed effects. The two issues are related, however, because the estimation of ordered probits or logits when standardising for fixed effects yields inconsistent estimates (Maddala 1983).

Using a particular household survey (the German national panel), the authors find that the results are not sensitive to the choice between OLS and latent variable methods. However, they are sensitive to standardisation for individual fixed effects in this data set which lacks variables

representing personality traits. For example, standardisation tends to reduce the size of the positive coefficients on income, health, and marriage. The general implications are that having a personality which is conducive to happiness is also associated with having high income, being healthy, and being married; and that reliable research results require either a panel data set and OLS estimation or explanatory variables that measure the effects of personality traits. The specific implications for this paper, given that we lack panel information on happiness over time, are that we should attempt to include variables that proxy personality traits in our estimations; fortunately we have several such variables.

3. Hypotheses and questions

The main findings from the general literature on the estimation of happiness functions are as follows. First, happiness increases with absolute income, *ceteris paribus*, but not proportionately and at a diminishing rate (Frey and Stutzer, 2002). Moreover, differences in income explain only a small proportion of the variation in happiness among people. Cross-country studies suggest that the relationship between income and happiness becomes weaker as income per capita rises. This is consistent with the argument that happiness depends in part on the gratification of certain basic biological needs and in part on the gratification of various social needs that are moulded by society.

The limited role of absolute income is further suggested by the fact that income and happiness are positively related in cross-section but not in time-series studies. For instance, in the United States and Japan, real income per capita increased over time but the mean happiness score remained constant. It is possible that mean happiness did not rise over time because aspiration levels adjusted to, and so rose along with, mean incomes in the society, and happiness varied positively with income and negatively with aspirations (Easterlin, 2001) A variant on the notion that relative income influences happiness stems from the long established literature on relative deprivation. People feel deprived if they are doing less well than their comparator. A person's position in the income distribution of the relevant reference group may thus govern happiness. This raises the question: what comparisons do people make; how wide are the orbits of

comparison? Duesenberry (1949) stressed own previous income or consumption as the frame of reference. Runciman (1966) suggested informational and social reasons why the frame of reference can be narrow. The second main finding, therefore, is that happiness depends on relative income, defined by the reference group or the reference time that people have in mind. However, it is not necessarily the case that the income of the reference group has a negative effect on happiness. Knight and Kingdon (2004) find a positive effect for the income per capita of the small local residential community that, after tests, they interpret as the result of altruism, fellow-feeling and a sense of community.

Absolute and relative income are not the only determinants of happiness. Being unemployed is found to reduce happiness independently of its effects on income (Clark and Oswald, 1994; Winkelmann and Winkelmann, 1998). The general unemployment rate also has a depressing effect, suggesting that having a higher risk of becoming unemployed reduces happiness. Subjective well-being is also influenced by several factors that are non-economic or potentially so, such as age, sex, marital status, health status, education, social capital, religion, and social and political institutions (Helliwell, 2002).

Can subjective well-being be used as a measure of poverty? The normal measure of poverty is defined by a minimum income or consumption level. Sen (1983) introduced the concept of 'capabilities' poverty. This he defined as not possessing adequate resources to have the capabilities to achieve a specified set of 'functionings', i.e. being and doing things of intrinsic worth. Absolute deprivation in terms of a person's capabilities can imply relative deprivation in terms of income, e.g for taking a full part in the life of the community. Thus, Sen eschewed the 'welfarist' approach to poverty with its underlying assumption that the evaluative criterion is the utility that people derive from goods and services, arguing that it represents a particular mental reaction to the use of a capability rather than the capability itself: 'The underdog learns to bear the burden so well that he or she overlooks the burden itself. Discontent is replaced by acceptance suffering and anger by cheerful endurance.' (Sen, 1984: 308-9).

We intend nevertheless to explore the happiness approach to poverty. We do so because the objective of alleviating subjectively felt misery and raising peoples' well-being is a commonly

held value judgement, which underlies much of the concern that is voiced about poverty in developing countries. It is possible to incorporate the alternative approaches to poverty within the framework of happiness functions. Not only income but also various proxies for possession of capabilities can be included among the explanatory variables. By this means subjective well-being can play an encompassing role, and one which can generate weights showing the relative importance of various components of poverty.

This literature review and the earlier descriptive tables from our data set suggest the following questions.

1. *Absolute income.* How important is absolute income in determining happiness? Is it more important at lower levels of income than at higher levels? How closely are the well-being poor and the income-poor related, and to what extent do they overlap?

2. *Relative income.* Which are the relevant comparator groups? To what extent does happiness depend on the income level of the village, or the county, of residence? Does the income of relevant others affect happiness, and if so does it have a positive or a negative effect? How important is relative income by comparison with absolute income?

3. *Non-economic variables.* How do personal variables (such as age, sex, education and marital status), social variables (such as social networks and associational memberships), and attitudinal variables (reflecting personality traits) affect well-being?

5.   Empirical results

Table 5 presents various specifications of the happiness function, for this exploratory analysis expressing happiness in cardinal terms. The different specifications are used to test various ideas.

5.1 Absolute income

When absolute income is entered on its own, it has a coefficient of 0.0044, significant at the one per cent level (eq. 1). However, the adjusted R-squared value is only 0.018. The mean value of household income per capita is 2,861 yuan, and the standard deviation is 2,685. The mean

happiness score is 2.676. Thus a rise in income from one standard deviation below the mean to one standard deviation above it raises happiness from 2.557 to 2.795; the addition of other explanatory variables in every case lowers the coefficient on income per capita. When the corresponding exercise is conducted for the log of income, adjusted R-squared is 0.032 and the equivalent range of happiness score is from 2.521 to 2.831 (eq.2); this range in turn falls to 2.581 – 2.770 when a full set of explanatory variables (other than relative income terms) is included (eq.7). Thus, absolute income cannot explain happiness at all well.

When a full set of explanatory variables (including relative income terms) is included (eq. 6), household income per capita has a very small and insignificant positive coefficient and its square has a very small and insignificant negative coefficient. A significant negative coefficient on the squared term would imply that happiness becomes less sensitive to income as income rises. However, we cannot yet find evidence for this.

To examine the relationships between income poverty and well-being poverty, we define the poorest 20 per cent of households in terms of income per capita to be 'income-poor' and those households whose respondents reported being 'not happy' or 'not happy at all' (9 per cent of the total) to be well-being-poor. Table 6 shows a cross-tabulation of the two measures of poverty. We see that only 3 per cent of households are both income-poor and well-being-poor. 16 per cent of the income-poor are also well-being poor but 84 per cent are not. It is easy to be happy despite low income. 35 per cent of the well-being-poor are also income-poor but 65 per cent are not. It is also possible to be unhappy without having low income. It is necessary to explore the other determinants of happiness.

5.2   Relative income

We introduce various forms of income comparison, both temporal and spatial, to consider whether happiness is influenced by peoples' aspirations, as set by their reference groups. One comparison is with own living standard five years previously. We see (eqs. 5 and 6) that, compared with those whose standard had remained the same, those whose standard had improved over the five years had a happiness score 0.27 points higher and those whose standard

had fallen were about 0.10 points lower. This provides some support for the argument that peoples' happiness is sensitive to improvement or deterioration in their income, whatever their current income level.

An indication that aspirations relative to income are important is provided by the dummy variable indicating that the respondent's money is considered to be adequate for living expenditure. This variable is not closely related to income or consumption level. The significantly positive coefficient implies that having this frame of mind adds some 0.28 to the happiness score (eqs. 5 and 6).

Respondents were asked to compare their household income with that of other households in the village. The effect on happiness is in all cases not only statistically significant but also powerful and monotonic. For instance, in eq. 5 we see that having income 'much above average' increases the happiness score by 0.26, and 'above average' by 0.12; having income 'below average' decreases the score by 0.31 and 'much below average' by 0.78. In particular it is the poor of the village who suffer as a result of making intra-village comparisons. Given that household income per capita is already being controlled for, and that villages differ greatly in their average income (the coefficient of variation of village mean income being 57 per cent), these results imply a relative income rather than an absolute income affect. They suggest that the poor households of the village, in particular, experience relative deprivation.

In the light of these results, our next results came as a surprise. We introduced not only household mean income per capita but also village mean income per capita and county mean per capita, each in logarithmic form (eqs. 3-6). The coefficient on household income remains significantly positive in each case but, whereas the effect of village income is negligible, the effect of county income is positive and generally larger than that of household income. Both household and county coefficients become smaller when we introduce province income (eq. 5): the coefficient on province mean income per capita is positive and larger than either of them.

The notion that people compare themselves with others in the village and are less happy the lower is their income rank in the village led us to expect a negative coefficient on village income.

However, this is never the case, even when we omit the village comparisons dummies. By contrast, county income has a robust positive coefficient, which is reduced but not removed by the inclusion of province dummies or province income (eqs. 4 and 5). How can this be explained?

It is helpful first to comment on the province variables. When a full set of province dummies is introduced, with Beijing as the omitted category (eq. 4), several of the coefficients are extremely large. Only Hebei, Liaoning, Shandong and Xinjiang have happiness scores that are not significantly different from Beijing's. All the others have significantly lower happiness, with Guanxi, Yunnan, Shaanxi and then Guangdong doing worst. These differences are to some extent related to province mean income, because the coefficient on province mean income in the alternative specification (eq. 5) is 0.21, significant at the one per cent level. Nevertheless, one may ask whether there are other province characteristics, such as the environment, the culture, the infrastructure, and the extent of provincial government support for local communities, which also help to explain these province differences.

How can the positive coefficients on county and on province mean incomes be explained? Four types of explanation can be advanced. One is that people are altruistic towards, or have a sense of fellow-feeling for, those around them. However, we would expect this effect to be more powerful the smaller the community, whereas the coefficients tend to rise as the area increases. Another explanation is in terms of mutual insurance but, again, we would expect this effect to be stronger at the village level than for larger communities. A third explanation is that the positive coefficient represents the benefits of the 'social wage', i.e. amenities and facilities are better in more prosperous counties and provinces.

It is, however, possible that there are less interesting, statistical, explanations for these results. The lack of a positive or negative association at the village level could be due to the sampling procedure. Recall that only ten households are sampled per village, whereas many villages have several hundred households. The stratified random sample is selected so as to be representative at the county level rather than at the village level. The village mean income variable may therefore be an unreliable guide to household mean income in the village as a whole, giving rise

to attenuation bias of the coefficient. It is also possible that household, county and province mean incomes are positively collinear, and county and province income are picking up some of the effect that is attributable to household income; or that household income is measured with error, and county and province incomes are serving as proxies for household income. In these cases, the true effect of household income is understated and that of community income is overstated.

5.3 Non-economic variables

As in other happiness studies, the possession of good health is found to be important (eqs. 3-6). Even when a full set of explanatory variables is included, good health raises the happiness score by about 0.30 points. Current mood is even more important: being in a better than normal mood raises happiness by at least 0.53 points (eqs. 3-6). Other happiness studies do not condition on current mood: its effect then has to be picked up in the error term. Age shows the conventional U-shaped relationship: as with other studies, the young and the old tend to be happier than the middle-aged, *ceteris paribus*. Education has a positive and statistically significant effect on happiness independently of its effect via income (eqs. 3 and 4). This is a commonly found result. It is interesting, however, that when the attitudinal variables are included (eqs. 5 and 6), the effect of education disappears. This suggests that education has its independent effect by moulding attitudes. In line with much of the literature, in rural China, also, men are less happy than women. The effect is between -0.14 and -0.18 points (eqs. 3-6). Communist Party membership is associated with greater happiness, although the effect is weaker when attitudes are controlled for (eqs. 3-6). Finally, marriage is relatively blissful in rural China: divorced and widowed people are much less happy (eqs. 3-6).

The pattern of the results on personal variables is generally similar to those obtained for very different societies. We must of course be cautious about attributing causation in the case of the potentially endogenous explanatory variables.

6.   Concluding comments

This is still very much work in progress: we do not wish to draw conclusions because our results and ideas are still putty rather than clay. There is a long agenda of analyses still to be done. These include the following:

- Re-running the equations using ordered probits or multinomial logits.
- Testing for the endogeneity of income and some other explanatory variables.
- Testing the sensitivity of the well-being function to our possible measures of well-being.
- Examining whether other personal characteristics of the respondent, as well as those of the household, enter the well-being function.
- Testing alternative explanations of our interesting result that the mean income per capita of the county has a large positive coefficient – whether it is due to altruism and fellow-feeling, mutual insurance (e.g. by introducing social capital variables), a 'social wage' (e.g. by introducing local amenity and facility variables), or has a non-causal statistical interpretation.
- Introducing further proxies for personality traits (e.g. by introducing attitudinal variables).
- Introducing further proxies for peoples' 'capabilities to be and to do things' *a la* Sen.

With all these qualifications, our evolving hypotheses/tentative conclusions are:

- Rural China does not appear to be the hotbed of discontent that some observers or commentators have claimed. It becomes an interesting question, which we shall shortly explore, whether the *anomie* associated with rapid urban reform has created more discontent in urban than in rural China, i.e. is the huge urban-rural income ratio in favour of the cities mirrored in greater urban happiness levels?
- Absolute income influences happiness positively but the relationship is weak and the explanatory power of income is very limited.
- The relationship between happiness and poverty is also weak: well-being poverty and income poverty do not correspond well.
- Several of the results obtained from the happiness functions in rural China (e.g. with regard to the effect of absolute income, age, sex, education, and marital status) are in line

with results obtained for very different societies.

- There is some evidence consistent with the hypothesis that the village poor suffer relative deprivation in relation to their fellow-villagers.

- Contrary to the prediction based on the theory of relative deprivation, there is a powerful positive effect of county and province (but not village) mean income on household happiness, which needs to be explained.

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Table 1

The percentage of Respondents by Category of Subjective Well-being; Overall, and by Household Income per Capita Quintile

	Overall	Quintile				
		1st	2nd	3rd	4th	5th
Happiness						
very happy	15.5	11.3	12.3	15.6	17.9	20.3
happy	45.8	37.4	43.2	48.0	49.3	51.3
so-so	28.8	34.3	32.0	28.0	26.5	23.0
not happy	8.0	13.9	9.5	16.7	12.7	11.8
not at all happy	1.0	1.9	1.8	0.7	0.3	0.3
hard to say	1.0	1.1	1.1	1.1	0.9	0.4
total (number)	9,197	1,839	1,840	1,840	1,839	1,839
Satisfaction with living conditions as a whole						
very satisfied	9.7	6.7	8.9	8.9	9.8	14.3
satisfied	34.1	26.1	29.6	36.0	37.2	41.6
so-so	31.3	29.7	33.0	32.1	32.1	29.3
not satisfied	16.1	22.3	19.2	15.9	14.3	8.9
not at all satisfied	7.8	13.5	8.7	6.2	5.5	5.1
hard to say	1.0	1.6	0.6	0.9	1.1	0.8
total (number)	9,200	1,840	1,840	1,840	1,840	1,840
Satisfaction with household income						
very satisfied	9.9	6.8	8.7	10.2	9.5	14.4
satisfied	28.9	24.5	25.0	27.8	31.4	35.8
so-so	23.7	21.8	23.4	25.5	25.3	22.8
not satisfied	23.6	27.0	28.2	23.9	21.8	17.0
not at all satisfied	13.0	19.1	13.3	11.4	11.5	9.5
hard to say	1.0	0.9	1.3	1.1	0.5	0.5
total (number)	9,199	1,840	1,840	1,840	1,840	1,839

Notes: The questions were: 'Taking all things together would you say you are:1. very happy,…?'; 'How satisfied are you with your living conditions as a whole: 1. very satisfied,…?'; 'How satisfied are you with the income of your household: 1. very satisfied,…?'. The first income quintile has the lowest income and the fifth the highest.

Table 2

Percentage of Respondents Giving each Reason for their Being Unhappy or Very Unhappy

	%
low income	63.6
insecure life	5.0
poor health	12.5
family problems	5.1
personal problems	5.0
other	8.8
total (number)	822

Table 3

The Percentage of Respondents by Level of Happiness: Overall, and by Comparison of Current Living Standard with that Five Years Ago

	Overall	Current living standard			
		better	the same	worse	don't know
very happy	15.5	20.3	7.7	9.1	10.0
happy	45.8	51.3	38.9	27.2	25.0
so-so	28.8	23.3	38.4	30.7	32.5
unhappy	8.0	3.9	12.6	25.8	15.0
very unhappy	1.0	0.4	1.4	5.6	2.5
difficult to say	0.9	0.7	1.1	1.6	15.0
total (number and row percentage)	9,195	61.2	33.5	4.9	0.9

Table 4

Percentage of Respondents reporting each Main Comparator Group: Overall, and by Level of Happiness

	Overall	Level of happiness					
		very happy	happy	so-so	unhappy	very unhappy	don't know
neighbours	28.6	30.6	28.0	28.4	30.9	16.5	18.8
relations	7.0	9.0	7.0	6.4	6.4	2.2	2.4
fellow-villagers	39.3	37.0	40.0	39.5	40.9	51.7	12.9
people in township	3.7	3.5	4.1	3.8	1.9	5.5	0.0
people in county capital	2.7	2.5	2.9	2.9	1.4	3.3	1.2
people in cities	3.5	3.9	3.6	3.2	2.9	4.4	0.0
people in China as a whole	0.9	1.2	0.8	0.9	1.2	2.2	0.0
difficult to say	14.4	12.4	13.6	15.0	14.5	14.3	64.7
total number and row percentage)	9,200	15.3	45.9	28.8	8.0	1.0	0.9

Table 5

The Determinants of Happiness: OLS Regression Results

	(1)	(2)	(3)	(4)	(5)	(6)
Intercept	2.5499***	1.1686***	-1.0685***	0.4352	-0.7253***	0.7504***
Household income per capita (00 yuan)	0.0044***					0.00010
Mean village income per capita (00 yuan)						-0.00021
Mean county income per capita (00 yuan)						0.00018***
Mean province income per capita (00 yuan)						0.00052***
Household income per capita squared						-0.000003
Village income per capita squared						-0.000005
County income per capita squared						-0.00021***
Province income per capita squared						-0.00071***
Ln household income per capita		0.1964***	0.1008***	0.1059***	0.0290**	
Ln mean village income per capita			-0.0035	-0.0030	-0.0212	
Ln mean county income per capita			0.2686	0.1173***	0.1242***	
Ln mean province income per capita					0.2090***	
Healthy			0.4940***	0.4670***	0.3096***	0.3072***
Better than normal mood			0.7830***	0.7688***	0.5311***	0.5355***
Age			-0.0124**	-0.0117**	-0.0097*	-0.0082
Age squared			0.00015**	0.00013**	0.00012**	0.00012*
Education (years)			0.0095***	0.0075**	-0.0007	-0.0039
Male (sex)			-0.1582***	-0.1400***	-0.1829*	-0.1614*
Communist Party member:			0.1268***	0.1035***	0.0536**	0.0591***
Single			-0.2263***	-0.2391***	-0.1179	-0.1045
Divorced			-0.3942**	-0.4049***	-0.4117**	-0.4100**
Widowed			-0.4378***	-0.4034***	-0.2871***	-0.2947***
Current living better than five years ago					0.2739***	0.2744***
Current living worse than five years ago					-0.0919**	-0.0997***
Money is adequate for living expenditure					0.2926***	0.2794***
Household compared with village						
much above average income					0.2565***	0.2743***
above average income					0.1204***	0.1304***

	(1)	(2)	(3)	(4)	(5)	(6)
below average income					-0.3051***	-0.3005***
much below average income					-0.7823***	-0.7746***
Hebei				-0.0881		
Shanxi				-0.3462***		
Liaoning				-0.0203		
Jilin				-0.2617***		
Jiangsu				-0.2707***		
Zhejiang				-0.3712***		
Anhui				-0.2458***		
Jianxi				-0.5254***		
Shandong				-0.0378		
Henan				-0.1328*		
Hubei				-0.3932***		
Hunan				-0.4174***		
Guangdong				-0.5303***		
Guanxi				-0.7687***		
Chongduing				-0.3803***		
Sichuan				-0.3953***		
Guizhow				-0.4464***		
Yunnan				-0.6233***		
Shaanxi				-0.5536***		
Gansu				-0.4957***		
Xinjiang				0.0869		
Adj. R-squared	0.0184	0.0318	0.1283	0.1790	0.2706	0.2810
F-value	171.84***	299.62***	103.00***	59.41***	141.85***	128.19***

Notes:
1. The dependent variable is happiness (H), which takes the following values: $H = 4$: very happy; $H = 3$: happy; $H = 2$: so-so; $H = 1$: not happy; $H = 0$: not at all happy. The mean value is 2.6755.
2. The number of observations in each case is 9,112.
3. The omitted categories in the dummy variable analyses are: not healthy; in normal or worse than normal mood; female sex; not a Communist Party member, married; Beijing; current living standard the same as five years ago; money not adequate for living expenditure; household at average village income.
4. ***, **, and * denote statistical significance at the one per cent, five per cent and ten per cent levels respectively.

2

Table 6

The Relationships Between Well-being Poverty and Income Poverty

Well-being poor	Income-poor		
	poor	non-poor	total
poor			
per cent	3.2	5.7	8.9
row per cent	35.4	64.6	
column per cent	15.8	7.2	
non-poor	16.9	74.2	91.1
per cent	18.5	81.5	
row per cent	84.2	92.8	
column per cent			
total			
per cent	20.0	80.0	100

Notes: The income-poor comprise the lowest quintile in terms of household income per capita. The well-being-poor comprise household respondents who reported being 'not happy' or 'not happy at all'.