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MULTIPLE DEPRIVATION IN RURAL CHINA

Wu Guobao, Sue Richardson and Peter Travers

Many rural Chinese have very low incomes. Some also work long hours, some have poor health, some are socially somewhat isolated, some have large debts, some have poor housing and few consumer comforts, some are illiterate, some are malnourished and some have no access to reliable and safe water.

In judging the overall well-being of people at the bottom of the distribution, it is vital to know whether these sort of deprivations go together, such that the people with the lowest incomes also suffer in other ways. Do the people with the lowest incomes also work the longest hours? Are they also malnourished and unable to read? Do social isolation and ill-health compound the hardships of material deprivation? These are some of the questions to be examined in this paper.

If experience of the different deprivations does go together, then two things follow. One is that, in order to know which households and areas are in greatest need, it is sufficient to know their income, because knowledge of their income tells you a great deal about their status in other spheres of life. The other is that the hardship caused by having a low income is compounded by being associated with hardship in other spheres.

In contrast, if deprivation in the different spheres does not go together, then people with low incomes may have good health, be socially integrated and in other ways lead adequate lives. The picture of hardship for those at the bottom is very different in the two cases. The policy response is also likely to be different.

Income is widely used as the indicator of material living standards, in China as elsewhere. It clearly is an important part of living standards and it is relatively easy to measure, to quantify and to rank. Nonetheless, if the correlation between income and well-being in the other important spheres of life is slight, then an exclusive focus on income to identify hardship and well-being will produce an incomplete and, at times, misleading picture.

Economists have used other indicators to complement or improve the income concept in measuring poverty and inequality. These include consumption expenditure, lifetime income, full income and earning capacity (Paglin, 1975; Creedy, 1992; Garfinkel, 1977; Travers and Richardson, 1993).

Europeans, especially the Scandinavian countries, have long ago abandoned the sole reliance on income to identify those who are experiencing greatest hardship (see, for example, Erikson and Uusitalo, 1987). In *Poor Britain*, Mack and Lansley (1985) defined as poor those who experienced severe hardship in three or more areas which they identified as essential to a satisfactory life. The UNDP has for a number of years modified its use of income to rank countries by expanding the index to include degree of inequality, health outcomes, treatment of women, violence and so on (UNDP, 1991, 1992). An Australian study (Travers and Richardson, 1993) highlights the different picture of hardship which emerges when a more comprehensive view of well-being is adopted.

Even the idea of income is problematic. Ideally it should be "full income", a term originally adopted by Becker (Becker, 1965). This is the income that would be generated by the household if all its resources were devoted to maximising income. Thus time spent off the job would only be that necessary to maintain peak productivity; household assets would be used solely to generate income (as distinct from consumption benefits) and so on. Other economists have argued that the proper measure of material well-being is the flow of consumption, rather than income. If inheritance is ignored, over a lifetime income and consumption will be very similar for a household (if the lifetime of a household has meaning). The chief difference lies in the timing: the use of the arbitrary period of a year can make this a significant difference, as people repay debt and save from their income (ie, receive income but no consumption benefit) and borrow and dissave (ie, receive consumption benefits which exceed their income for the period).

It is clear that annual cash income, which is the usual measure of income for statistical purposes, is an inadequate proxy for the theoretically appropriate measure of income. In the Chinese case, the imputed value of home produced and consumed agricultural products is included in the official measure of income, which brings it closer to the theoretically appropriate measure. But it still excludes borrowing and dissaving, the extent to which potential labour time is used for purposes other than earning, and the flow of services from consumer assets such as a house and its contents. It is an empirical question as to whether there is enough difference in these additional items,

among poor Chinese rural households, for their inclusion to alter, in non-trivial ways, the picture of the distribution of income. A second purpose of this paper is to provide evidence on this matter.

In section 2 we discuss the data on which our analysis is based. The data are original and tailored to our purpose. Section 3 discusses the use of these data to compute a value for each household of its full income. Section 4 measures a variety of indices of well-being. Two different equivalence scales are used to account for variations in family size and composition. Sensitivity to choice of equivalence scale and to different ways of measuring material well-being is examined. This is followed by section 5 which examines whether or not income correlates highly with other indices of material well-being, for households in the bottom and top quintiles of the income distribution. Section 5 presents our conclusions.

2. The Data

China's official household income data do not cover the full range of sources of material well-being in which we are interested. What data they do collect, however, are probably quite reliable, since they are based on household diaries which are checked by village statistical assistants. (Note, however, that participants need to have at least one household member who is literate, and to be reasonably geographically accessible: thus the poorest households are probably under-represented in the official data and hence also in our sample). We sought to combine the advantages of a survey tailored to the issues in which we were interested with the accuracy of the official data. To achieve this, a questionnaire of our own design was personally administered to 500 households which were in the State Statistical Bureau (SSB) long-term household survey. There was full compliance with our survey, which was administered by one of the authors (Wu) in 1992. We have been able, for each household interviewed, to combine the data from our own survey with those from the SSB survey. We thus have the accuracy of the SSB data and method together with the relevance and comprehensiveness that a tailor-made survey can provide. For more detail on the data collection, see Wu, Richardson and Travers, 1995.

Our survey was designed to obtain comprehensive information about the material standard of living of the household. In addition, we sought information about other aspects of a satisfactory life in order to be able to examine whether these were closely related to the household's material circumstances. Questions were asked about

household demographic characteristics, literacy, health, social relations, income from all sources, time spent working, gifts given and received, debt, productive assets, consumer goods, housing status and estimated value of house, access to water and transport together with some questions about attitudes, such as optimism about the future. The questions were answered by the male head of household, usually in the presence of local officials and sometimes through a translator. We acknowledge that the circumstances of the interview may affect, in unknowable ways, the answers given.

Our sample contains households from four out of the six officially defined poor regions (the regions which are not represented are Inner Mongolia and Tibet). On the three key indicators of arable land per capita, literacy and per capita income, the average values for our sample diverge at most 14% from the national average for the poor regions. This is sufficiently close to give confidence in the reliability of our data. Our sample, while somewhat over-representing illiteracy, also has slightly higher average amounts of land and income: we are not focussing on an untypically poor group.

3. Estimating Full income

The first step in the empirical analysis is to compute a full income for each household. The purpose of this is to generate a more comprehensive measure of income than is provided by official income. We recognise that it is not fully comprehensive and that assumptions which are subject to dispute are used in the construction of the more complete measure. Nonetheless, in order for the full income to be a more accurate measure than is the official measure of income, it is only necessary for the estimated values to be closer to the truth than is zero, since zero is the implicit valuation if the item is excluded from the calculation of income. We define full income in this study as the sum of the imputed value of adult time spent not working for income, annual imputed rental value of the house, receipt of gifts less gifts given, payments to various levels of government, together with official income.

The value of non-working time is calculated from an estimate of the household production function, since most work is done within the household production unit (ie, not for a wage). In poor areas the major and perhaps the only resource under household control is labour. Thus, an increase in household income will usually require household members to work longer hours on their available land, in gathering fuel for sale etc. If it is possible to increase household income in this way, and yet

people do not work the longer hours, then we are entitled to infer that the other things that they do with their time are worth more to them than the possible increase in income.

We assume that each person can work at most 12 hours per day in income-generating activities. A production function is estimated, based on observed production data for the household, from which the marginal product of labour can be derived. This marginal product is then applied to the difference between 12 hours and those recorded as being actually worked. The foregone income this estimates is termed the imputed value of non-working time and is added to household disposable income as part of full income.

Households estimated the value, based on either market or replacement cost, of their house. The annual value of the house was then calculated as 10 percent of its capital value. This imputed value is included in household full income. The net value of gifts given and received, and the payments to government, are obtained directly from respondents.

Average full income in our sample is only slightly higher (4 percent) than the figure based on the official definition. This is because, on average, transfer income in our sample is negative (This will be explained further later).[1] As such, it offsets partly the positive values of imputed house value and the value of non-working time in the value of full income.

4. The Incidence of Poverty

The incidence of households below the official poverty line in our survey, at about 24 percent, is nearly three times the national average (SSB, 1993). This is consistent with there being a relatively high incidence of poverty in the areas which are officially designated as poor, from which our sample is drawn.

The question "what is the incidence of poverty?" is not so innocent as it looks. First, there are well-known problems with selecting the level of income which is to be designated “the poverty line”. Within a range, the actual level of income selected is arbitrary and yet its level can have a large effect on the proportion of the population

[1] The transfer income includes the income transferred to non-rural households. Non-rural households refer to the households who are not registered as rural households in China's population registration system, even though they may live in rural areas.

which fall below it. Second, there is a need to adjust family income to allow for the different number and characteristics of family members (ie, to apply an equivalence scale). Any one of a number of equally plausible equivalence scales may be chosen. Third, there is debate about how best to measure income for this purpose: should it be money income, full income, consumption or some other measure? These theoretical difficulties do not matter for practical purposes if the incidence of poverty is not sensitive to which of the plausible alternatives is chosen. To explore this sensitivity, we present in Table 1 estimates of the incidence of poverty, measured both as a percent of households below the poverty line and as the Sen index. In so doing, we use two different poverty lines, three different ways of measuring income and two different equivalence scales.

Two of the three ways of measuring income have already been discussed (namely, official income and full income). The third is the level of household consumption. Consumption is measured as the actual expenditure on consumer goods, regardless of how the purchases are financed. The data are obtained from the SSB diaries of expenditure. Commodities produced and consumed within the household are valued at the weighted average of official and market prices.

The Sen index is a way of measuring poverty which takes account of the *extent* to which the incomes of households are below the poverty line (which a simple count of the number of households below the poverty line does not). It is calculated as F(Z)[Z-u*{1-G}]/Z, where Z is the poverty line level of income, u* is the average income of households below the poverty line, G is the Gini index of income for households below the poverty line and F(Z) is the percent of households which are below the poverty line. Higher values of the index imply greater poverty.

According to the SSB's equivalence scale, households with 4 to 6 members are regarded as a unit (or standard) household. In these households, equivalent income is simply per capita income. Some modest recognition is given to the existence of economies of scale in household consumption. Specifically, single person households are given a weight of 1.068. Each person in households of 2 to 3 people is given a weight of 1. 0272 and people in households with over 6 members get a weight of 0.9676. No allowance is made for differences in age or employment status. In contrast, the OECD equivalence scale implies much greater economies of scale. After the first adult, an extra adult receives a weight of 0.7 while each child receives a weight of 0.5. It thus provides a useful comparator to establish whether the picture of the extent of

poverty in the poor regions of rural China is sensitive to the choice of equivalence scale.

Because, in the OECD scale, additional members of households have a weighting of less than one, the number of OECD "equivalent adults" is less than the number of SSB "equivalent adults". For purposes of comparison, it is necessary to convert the income which is defined as the poverty line by the SSB, using its equivalence scale, to a comparable income using, the OECD equivalence scale. We have done this by applying to the SSB poverty line the ratio of the two sets of "equivalent adults" in our sample.

It has been necessary to make a similar adjustment to calculate the level of consumption and full income which match the standard of living implied in the official poverty line. Specifically, we have applied the ratio of the value of consumption and of the value of full income, respectively, to the value of disposable income in our sample.

Our data show little sensitivity in the estimate of the extent of poverty to the choice of poverty line, *provided that* the poverty line is adjusted to match each equivalence scale. If there is no such adjustment, the proportion of households below the poverty line is fewer under the OECD scale, because the needs of extra family members are deemed to be less. The incidence of poverty varies at most by two percentage points as we switch from the OECD to the SSB equivalence scale. Note that this does *not* imply that it is the same households which are deemed to be below the poverty line in each case. Unless the households at or near the poverty line were all of very similar size, then the different weightings in the two equivalence scales will produce different sets of households below the poverty line. For example, when the SSB equivalence scale is used, there are 107 households of three or more people and 42 households of more than six people below the poverty line. The comparable figures when we use the OECD equivalence scale are 103 and 39.

The issue of the appropriate equivalence scale is hotly debated within developed countries. At first blush, the SSB scale (which virtually gives everyone the same weight) seems crude and likely to mislead. However, when income levels are very low, a high proportion of expenditure is on food, basic clothing and cooking fuel. Each of these varies directly and quite closely with the number of people in the household and may make it appropriate to give each person in the household a similar weight.

That is, the source of the controversy about the precise specification of equivalence scales is the nature and extent of economies of scale in the household--where an

additional family member does not cause a proportionate increase in expenditure on, say, heating or housing. The smaller the proportion of expenditure on items which display economies of scale, the more justifiable it is simply to divide household income by the number of people it supports.

Table 1 Poverty Indicators for Poor Areas of Rural China, 1992

(At 1985 prices)

	World Bank's poverty line[1]					
	SSB's equivalence scale			OECD's equivalence scale		
	Poverty line (yuan/ capita)	Incidence of poverty %	Sen's index	Poverty line (yuan/ capita)	Incidence of poverty %	Sen's index
Households ranked by:						
a) disposable income	193	22	8.86	276	22	8.42
b) consumer expenditure	164	22	7.79	233	21	6.87
c) full income	213	19	6.80	300	17	6.25
	Official poverty line[2]					
	SSB's equivalence scale			OECD's equivalence scale		
	Poverty line (yuan/ capita)	Incidence of poverty %	Sen's index	Poverty line (yuan/ capita)	Incidence of poverty %	Sen's index
Households ranked by:						
a) disposable income	200	23	9.59	286	23	9.11
b) consumer expenditure	169	24	8.58	241	22	7.60
c) full income	220	20	7.46	310	19	6. 90

1. The World Bank's poverty line is a per capita disposable income of 193 RMB at 1985 prices. (Our data use the retail price index to adjust disposable income to the 1985 equivalent)
2. The official poverty line is a per capita disposable income of 200 RMB at 1985 prices.

Source: own survey.

Unlike the experience of the developed countries, the choice of income measure does not make a big difference to the estimated proportion below the poverty line cut off. For a given equivalence scale and poverty line, the difference is at most four percentage points (ie, it ranges from 20 to 24 percent of households below the poverty line). While this is not a trivial difference, given the imprecision of the whole strategy of measuring poverty via a poverty line, the differences are not large enough to alter our overall picture of the extent of rural poverty in the poor regions. The relative insensitivity to choice of income indicator probably arises from the fact that, at such low absolute levels of income a) there is little scope for saving, so the difference between income and consumption is small, b) people by necessity earn close to their physical capacity, so that the non-employed time component of full income is small and c) the level of consumer durables is low so that the level and variance in their contribution to full income is small.

We conclude that, so long as household incomes remain absolutely very low in rural China, researchers and policy makers are probably justified in using the more simple (and easy to collect and calculate) ways of ranking households according to their material well-being, such as the SSB scale. However, a question-mark remains over the use of the SSB equivalence scale, given its failure to distinguish between children and adults and the very high weight given to extra members of a household.

5. Multiple Deprivation?

We examine six different indicators of well-being: 1) income: official income and full income; 2) consumption: covering consumer expenditure, calorie intake and housing; 3) living conditions: composed of drinking water and lighting; 4) health and literacy; 5) social contacts: that is, contacts of households with relatives, villagers and local officials; 6) debt and daily working hours. Our chief interest is whether the households which have the worst experience on one of these indicators also have the worst experience on the others. In order to establish whether this is so, it is necessary to rank households in terms of better or worse on each indicator.

Official income, full income, consumer expenditure, calorie intake and size of house are all measured on a continuous numeric scale. It is easy then to rank each household

on each of these indicators. In order to make them more easily compared with the other indicators, household rankings are then divided into deciles.

Indices for the other spheres of life are constructed as ordinal scales, whereby a higher number indicates a worse state of affairs. Lighting is distinguished as electric and non-electric. The former is 1 and the latter is 2. Drinking water is ranked by its degree of safety. Tap water gets the value 1, well and fountain water 2 and river, pool and rain water 3. Health status is classified into two groups: healthy and sick. The latter refers to the households which have one or more members suffering chronic diseases and is scored 2. All other health states are scored 1. Literacy status is ranked by the percentage of illiterate household members. Households with no illiterate member are ranked 1. Households with fewer than half of their number unable to read and write are ranked 2. Households with more than half of their number illiterate but with some literate members are assigned the number 3 and households with all members illiterate are assigned the number 4. Social contacts are ranked by the frequency of being visited during a month. More than twice is scored 1, 1-2 times is scored 2 and less than 1 is scored 3. Debt is ranked by the amount of household debt owed to private lenders and banks. Households owing less than 100 RMB are scored 1, 100-1000 RMB are 2 and over 1000 RMB are 3. For working hours, less than 5, 5-8, 8-11 and over 11 hours daily are scored 1, 2, 3 and 4, respectively.

Table 2. Correlation Coefficients of Indices of Spheres of Well-being

	I_1	I_2	I_3	I_4	I_5	I_6	I_7	I_8	I_9	I_{10}	I_{11}	I_{12}	I_{13}	I_{14}
I_1	1	0.98	0.75	0.49	0.29	0.24	-0.03	0.14	0.04	0.16	-0.10	-0.15	0.06	0.05
I_2		1	0.73	0.44	0.30	0.25	-0.01	0.12	0.07	0.19	-0.10	-0.20	0.04	0.06
I_3			1	0.58	0.33	0.17	-0.08	0.09	-0.01	0.15	-0.03	-0.10	0.05	-0.02
I_4				1	0.28	0.00	-0.16	0.14	-0.08	-0.02	-0.08	-0.22	-0.05	-0.01
I_5					1	0.09	-0.02	0.13	0.07	0.03	-0.01	-0.12	0.09	-0.00
I_6						1	0. 26	-0.04	0.14	0.08	0.04	-0.03	0.06	-0.03
I_7							1	-0.00	0.14	-0.00	0.03	-0.10	0.02	0.04
I_8								1	-0.05	0.08	-0.11	0.00	0.01	0.13
I_9									1	0.03	-0.01	0.03	0.08	0.07
I_{10}										1	-0.05	-0.06	0.09	0.01
I_{11}											1	0.28	0.18	-0.08
I_{12}												1	0.28	-0.03
I_{13}													1	0.05
I_{14}														1

I_1 equivalent income as measured by the SSB (“official income”);
I_2 equivalent full income;
I_3 equivalent consumer expenditure;
I_4 calorie intake;
I_5 living space of house;
I_6 literacy;
I_7 lighting;
I_8 daily working hours;
I_9 health status;
I_{10} drinking water;
I_{11} contacts with relatives;
I_{12} contacts with fellow villagers;
I_{13} contacts with local officials;
I_{14} debt.

We note that the indices vary in the number of steps in each scale. For example, households may have a value of between 1 and 10 for income, but only a value of 1 or 2 for health. This makes the information contained in a rank correlation less precise than it would be if all indices had the same number of intervals and, more particularly, if the number of intervals in each case was large. Although we did not use a non-parametric technique, the results from a rank correlation are approximately the same. With these limitations in mind, we can claim that the broad message is meaningful but would not want to defend it in detail.

We note first from Table 2 the very high correlation between official and full income. For all practical purposes, the use of official income is a satisfactory substitute for the somewhat more complete full income. Not only are the two measures highly correlated, their correlations with the other indices are also similar.

Second, we find that calorie intake and income are *not* highly correlated (at a coefficient of about 0.5). This is a relatively robust figure, since both scales are ranked 1-10. The modest correlation may indicate the efficacy of the grain relief program conducted by the government. A relatively low income does not necessarily translate into being malnourished, although it increases the chances of being so.

The relations between income and literacy on the one hand and income and housing space on the other, while positive, are smaller still. Positive, but very low correlations are to be observed between income and hours worked and safety of drinking water. The use of electric light, health status, social contacts and debt have virtually no correlation with income.

The picture provided by Table 2 is that income is quite important in determining levels of consumption and has a substantial influence on levels of nutrition. Beyond that, its influence on other aspects of the standard of living is at most modest and in cases non-existent. It seems to be common to have a relatively low income and yet have relatively good health, social contacts, little debt, be able to use electric light and have access to relatively safe drinking water and not even work particularly long hours. Conversely, it is not uncommon, it seems, for households with relatively high incomes to have less favourable outcomes on these other measures. This initial picture confirms the value of taking a broader look at living standards: it is necessary to know more than a household's income if one is to judge its level of well-being.

Health status (measured as at least one family member suffering from chronic illness) appears to be unconnected to any of the other variables. It has low correlations with income, consumption, calorie intake, water safety, literacy and hours worked. We note that most of the chronic illnesses in the sample households are directly associated with a poor medical system and adverse natural conditions---deformity and arthritis being the most common. Both have little relation to malnutrition.

The overall conclusion that we draw from Table 2 is that the multiple dimensions of well-being for which we have data are not closely connected. Not even income determines the status of households in such important areas as social connectedness, health, literacy, safe drinking water and working hours. The picture of well-being is indeed complex and it is not essential to have a relatively large income in order to have, relative to other households, satisfactory outcomes in many of the other dimensions. Higher incomes do result in higher levels of consumption and clearly assist in reducing the risk of malnourishment.

A second way to probe the link between income and the other spheres of life is to compare the circumstances of households which are at the top of the income distribution with those that are at the bottom. We report the results of such a comparison in Table 3. Here, the "top" is defined as the top quintile and the "bottom" is defined as the bottom quintile.

Table 3. The Percentage of the Top and Bottom Quintile Households Who Fare Relatively Poorly In Various Spheres of Life

Items	Based on official income		Based on consumer expenditure		Based on full income	
	Top %	Bottom %	Top %	Bottom %	Top %	Bottom %
1. Official income	0	38.43	0	19.30	0	36.84
2. Consumer expenditure	0	30.77	0	39.27	0	15.79
3. Full income	0	46.15	0	26.83	0	43.64
4.Calorie intake	2.86	13.16	0	13.16	0	10.53
5. Space of house	4.54	9.61	0	0	0	0
6. Literacy	6.82	11.54	2.78	5.26	3.23	15.79
7. Lighting	5.71	15.79	0	5.26	0	13.16
8.Daily working hours	5.71	18.42	6.90	5.00	0	16.21
9. Healthy state	14.28	31.58	24.14	22.50	13.79	32.43
10. Drinking water	5.71	15.79	10.34	27.50	6.90	29.73
11. Contact with relatives	42.85	21.05	31.03	25.00	41.38	24.32
12. Contact with villagers	37.14	26.32	37.93	25.00	44.83	27.03
13. Contact with officers	71.43	84.21	62.07	70.00	79.31	86.49
14. Debt	14.29	21.05	27.59	10.00	17.24	21.62

Source: own survey data.

In the first pair of columns of Table 3, households have been ranked by official income prior to the top and bottom quintiles being identified. For the second set of columns, they have been ranked according to their consumption expenditure (as recorded in diaries by the SSB survey). In the final pair of columns, they have been ranked by "full income", the construction of which we described earlier.

A household is classified as having a problem in a particular area if it has been given the highest available score on the relevant index. For example, if it has a score of 4 for literacy then it is defined as having a problem in that sphere (specifically, noone in the household is literate). Similarly, a household is classed as having a problem with drinking water if it has a value of 3 on the relevant index (implying that drinking water comes from a river or pool). Cleary, for each index a different proportion of all households will have a problem as defined. It is not the absolute value which is of interest here. Rather, it is the comparison of the experience of households ranked in the top quintile with those ranked in the bottom quintile.

The first three rows of the Table show clearly that when households are ranked by either measure of income or by consumption, those in the top quintile have no problem with the other two measures whereas those in the bottom quintile do. This supports our earlier conclusion that the two measures of income and the measure of consumption expenditure are closely related. They are not, however, identical. Note, for example, that when households are ranked by income, by no means all the bottom quintile have problems with consumption. Conversely, when households are ranked by consumption, many of the bottom quintile do not have problems with income.

Households in the bottom quintile of the distribution of official income are more likely to have problems than are those in the top quintile, in all areas except social contacts. It is unequivocally better to be at the top and there is no surprise in this. There are, however, some other surprises. First, in some spheres the advantage of being in the top quintile is quite small; second, top quintile households have problems in a number of spheres; and third, bottom quintile households appear to be the more socially integrated.

Relative to their poorer counterparts, top quintile households have the greatest problems in the areas of social contacts, health, literacy, safe drinking water, hours worked and debt. This picture supports that obtained from Table 2, namely that status in a variety of areas is at least partly independent of income. It is particularly interesting to note that when households are ranked by consumption, those at the top have more problems with debt than do those at the bottom. This is not the case when households are ranked by income. It suggests that at least some households are sustaining their consumption levels via borrowing.

The area of social contacts stands out as the one where households in the bottom quintile do better than those at the top. We can only speculate on the reasons for this, and in saying that they "do better" we are implying that these social contacts with friends and villagers are welcomed. The higher rate of contact may be the result of the informal family and village welfare system, whereby households in particular need are supported by family and friends. A quite different interpretation is that some households place a high weight on social interaction and use some of their time for this at the expense of working. In this scenario, the high social contacts *cause* the relatively low income. Note that the higher income households are more likely to have frequent contact with village officials, as distinct from family and friends.

For a final perspective, we turn to Table 4. Here we take a more detailed look at the difference in experience for households with high and low full incomes, for selected spheres of interest.

Table 4. The Difference in Outcomes for Households in the Top and Bottom Quintiles of the Distribution of Full Income, for selected Spheres of Interest

Rank	**Daily hours worked**		**Drinking water**		**Social contact**		**Literacy**	
	Quintile		Quintile		Quintile		Quintile	
	top	bottom	top	bottom	top	bottom	top	bottom
1	5%	5%	26%	3%	39%	50%	90%	26%
2	32	11	67	68	19	21	6	26
3	61	61	7	29	42	29	0	32
4	0	17					3	16

Source: own survey

In interpreting Table 4, recall that outcomes have been ranked only in a qualitative way and a higher number means a worse outcome. The table should be interpreted in the following way. In the column headed "Daily hours worked" we see that five percent of households in both the top and bottom quintiles of the distribution of full income had adults who on average worked five hours per day or less. However, while none of the top quintile households worked on average more than 11 hours, 17 percent of the bottom households did.

The largest difference in outcome between the high and low income groups is in literacy. There is very little illiteracy in the households in the top quintile and considerable illiteracy among the households at the bottom. What is cause and what is effect cannot, of course, be distinguished in Table 4.

There is not a large difference in the distribution of working hours or safe drinking water between the top and the bottom households, but what there is favours the high income group.

5. Conclusion

In the introduction we identified two questions on which this paper would focus. One was whether the official version of household income was satisfactory as a measure of income for China's rural poor. The other was whether income was satisfactory as a measure of well-being viewed more broadly. We are now in a position to answer those questions.

The official definition of income, including the use of an equivalence scale which virtually gives every household member the same weight, is not seriously challenged by the evidence that we present. We strongly suspect, however, that the exclusive focus on earned income (including income in kind) and the rather crude equivalence scale **would** become problematic if rural incomes were to rise substantially. Then economies of scale in the supply of household services, the value of non-cash sources of material well-being such as time spent not working, the flow of services from the house and its contents and borrowing and saving are likely to become quantitatively important.

Is it safe to rely on income to obtain a picture of the level and distribution of material well-being? The evidence that we present suggests strongly that it is not. Many things that matter to households, such as literacy, health, safe drinking water and so on are not connected strongly to levels of household income. Thus, while having a very low income undoubtedly causes great hardship, for many this hardship is not compounded by especially harsh experience in other spheres of their lives. Conversely, a relatively high income does not make households immune to disadvantage in other areas. As a result, inequality across the broader spectrum is less than it appears to be if we focus on income alone. While undoubtedly some households do experience harsh outcomes across a range of areas of their lives, this is not the typical experience. We may conclude that, among rural Chinese in poor areas, households generally do not experience multiple disadvantage nor multiple advantage.

We note that moves to a market economy and more extensive use of the price system may cause a closer link to develop between income and outcomes in other spheres of life.

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