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ABSTRACT

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Survey data from urban China in 2002 show levels of life satisfaction to be low, but not exceptionally so, by international comparison. Many of the determinants of life satisfaction in urban China appear comparable to those for people in other countries. These include, inter alia, unemployment, income, marriage, sex, health and age. Communist Party membership and political participation raise life satisfaction. People appear fairly satisfied with economic growth and low inflation, and this contributes to their overall life satisfaction. There is dissatisfaction over pollution, but this – like job insecurity – does not appear to impact on life satisfaction.

JEL Classification: I31, I38, J18, D63

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Life Satisfaction in Urban China: Components and Determinants

1. Introduction

There is now a large literature on life satisfaction, although most studies have focussed on developed countries. One of the striking features of this literature is that economic growth in rich countries over the last fifty or so years, does not appear to have led to commensurate improvements in their happiness. Contemporary China is an interesting case to study life satisfaction, since it has experienced rapid and sustained economic growth for nearly three decades. Indeed, as the Chinese government has *de facto* abandoned much of the Marxist ideology that underpinned its rule, its authority has increasingly been seen to rest on its ability to continue to deliver economic growth. However, the international literature on life satisfaction cautions against simply assuming fast economic growth will lead to a happy and content population. In this paper, we focus on urban China, using survey data on life satisfaction in 2002.

Although China's rapid growth is a source of envy for much of the developing world, within the country there is concern over a variety of sources of discontent. While urban residents have shared in the country's economic growth, they have also been subject to reforms that have impacted negatively on some. Mass retrenchment in state owned enterprises has increased unemployment. Much state or work-unit provided welfare has been withdrawn – employees in the state sector feel insecure about their future in terms of pensions, medical insurance and housing subsidies (Saunders and Shang, 2001; Appleton, *et al*, 2004). Income inequality rose sharply during the initial reform period (Knight and Song, 2003). Political reform has been slow in comparison to economic reform and there are concerns that this may lead to discontent. Shorn of its ideological roots, the Chinese Communist Party faces a challenge to its legitimacy, aggravated by frequent reports of corruption among its members.

In this context, the analysis of life satisfaction in contemporary urban China provides an interesting addition to the growing literature on happiness (Frey and Stutzer, 2002; Layard, 2005). The literature on life satisfaction in China is rather thin. Ji, Xu and Rich (2002) report on data from Shanghai and Tianjin in 1993. This paper uses survey data purposively designed by the authors, administered by researchers at the Institute of Economics, Chinese Academy of Social Sciences, and conducted by the National Bureau and Statistics. The survey was linked to the urban component of the 2002 Chinese Household Income Project (CHIP) survey. 7000 individuals were randomly sampled from 71 Chinese cities out of 12 provinces covering all geographical regions and administrative levels of China. Companion pieces on life satisfaction for rural residents and rural-urban migrants are provided by Knight, Song and Gunatilaka (2007) and Knight and Gunatilaka (2007) respectively. However, it should be noted that only the urban sample used in this paper had answered questions from an entire module devoted to life satisfaction. Given China's size and importance to the world economy, it is interesting to see whether existing findings from studies of other countries - mainly Western rich ones - also apply to China.

Moreover, data on individual life satisfaction provides one lens for studying social discontent and potential political instability. Social discontent is typically seen in terms of its observed manifestations - demonstrations, strikes, civil disorder and criminality.

However, it should also have some relation to individual life satisfaction.. The relation between the two seems almost definitional: it is hard to envisage social discontent arising among a population which all reports high life satisfaction. In this paper, we focus on three aspects in particular: the overall level of life satisfaction; the components of life satisfaction (which areas of people's lives they are particularly satisfied or dissatisfied with); and the socio-economic determinants of life satisfaction. All three may have some relevance to understanding social discontent. For example, if people tend to report high levels of life satisfaction, then this provides some evidence that social discontent is not as high as sometimes imagined. Similarly, if people report being particularly dissatisfied with their job security, for example, then that provides some *prima facie* evidence that this is an area of concern. And if people with certain characteristics are more likely to report low levels of life satisfaction, then this provides some evidence that they are as a more discontent socio-economic group.

The paper is structured as follows. Section 2 provides some background on economic developments in China, which form the context for our analysis. Section 3 describes the data used. Section 4 explains the two main empirical exercises undertaken in the paper: analysing the different components of life satisfaction and modelling life satisfaction as a function of socio-economic factors. Section 5 reports on the former exercise; section 6 reports on the latter. Section 7 concludes.

2. Background - socio-economic developments in urban China

The most salient feature of China's economic development over the past thirty years has been its rapid and sustained economic growth. For example, the Chinese Household Income Project surveys, the latest of which we analyse in this paper, imply that the income per capita of urban residents in China (i.e. those with urban *hukou*) rose by an average rate of 4.47% per annum between 1988 and 2002. In the more recent period of 1995-2002, the corresponding growth rate was 4.42% per annum. One might expect such strong economic growth to raise life satisfaction. Higher income for individuals is generally found to be associated with greater life satisfaction in cross-sectional and panel data. However, one caveat here is the finding that reported life satisfaction did not rise for industrialised countries in the post war period (Easterlin, 2001; Frey and Stutzer, 2002; Layard, 2005).

The launch of a program of radical restructuring of state owned enterprises in 1997 created many strains for Chinese society. More than one third of China's urban labour force has been affected - being made redundant or unemployed (Appleton *et al*, 2002). This mass retrenchment is one reason why 24% of the respondents in our sample reported experiencing an absolute fall of their household real income at some stage between 1998 and 2002¹. Beyond any associated income loss, there may be two other negative impacts of this mass retrenchment on life satisfaction. Firstly, there is the direct effect of unemployment. Works brings with it social connections and contributes to a sense of self-worth, so that other studies of happiness often find its direct effects outweigh the indirect effects via income. Secondly, even for those who retain their jobs, the increased risk of unemployment may create a feeling of insecurity and anxiety.

Another key set of urban reforms in China have concerned welfare provision. Medical care provision by work units has been reduced and many urban citizens now lack state

medical insurance. The survey used in this paper identified a large proportion of respondents who were worried about the insufficient coverage of medical insurance. We therefore investigate to what extent lack of state medical insurance contributes to social discontent. A further aspect of welfare provision concerns housing. Housing had previously been owned and allocated by the work unit. However, reforms led to the transfer of ownership to households, almost as a *quid pro quo* for the withdrawal of many welfare benefits formerly provided by the work unit. By 2002, around 79% of our sample of urban residents owned their own homes. Home ownership may have increased satisfaction with living conditions by providing households with more incentive to improve their accommodation.

Traditionally, families and social network (*guanxi*) played a significant role in welfare provision or social support in China. State welfare in urban China during the planning period reduced the significance of this tradition. However, retrenchment and reductions in state welfare programmes have led to increased feelings of insecurity, reviving the role of the family and enhancing the value of social networks. This may be particularly true in the period of transition when the market mechanism – whether for labour or for welfare services - is not fully established. With a potential gap between public and market provision, people may depend on their family, relatives, friends and other social connections to help (e.g. with medical treatment).

While China has seen radical economic reform, political changes have been more modest. Although the Chinese Communist Party (CCP hereafter) has loosened its grip on the economy and arguably abandoned its core beliefs, its membership has risen markedly. The Communist Party membership has expanded from 3.8% of China's population in 1978 to 5.2% in 2002. As of June 2002, it had 66.4m members, making it the largest political organization in the world (Economist Intelligence Unit, 2004). Given this mass membership, it is interesting to see whether ordinary CCP members differ from non-members in their levels of satisfaction. Similarly, we look at whether membership of one of the smaller political parties (still CCP sanctioned) is related to life satisfaction. During a transition from a command economy, there is a political risk that members of ruling party will resist reform as they fear losing their privileges when exposed to the market. However, it has been argued that China has made reform “incentive-compatible” in the sense that Party members have gained from it and indeed gained more than non-members (Appleton et al, 2006; Morduch and Sicular, 2000).

Political participation outside the direction of the CCP is still taboo in China – political parties, religious institutions and labour unions are all subject to tight official control. However, access to news and information is increasing – for example, through increased international travel and through the internet (despite attempts at censorship - the so-called “great firewall of China”). People can discuss political issues in small groups of trusted friends. As well as party membership (political affiliation) we asked respondents about their level of interest and activity in political matters (political participation). Potentially, political participation may be an outlet for social discontent. Consequently, it is interesting to see if our index of political participation is related to satisfaction.

3. Data

This paper analyses a module on subjective well being purposively designed by the authors. The module was incorporated into the 2002 Chinese Household Income Project (CHIP, 2002), a large scale national survey administered by researchers at the Institute of Economics, Chinese Academy of Social Sciences, and conducted by the National Bureau and Statistics (Gustafsson, Li and Sicular, 2007). The 2002 CHIP urban survey was based on the government's official sampling frame. This has the advantage of making our sample representative of all Chinese with urban *hukou*. 71 Chinese cities were sampled, with the intention of covering all geographical regions and administrative levels of urban China. Twelve provinces were included: Anhui, Beijing, Chongqing, Gansu, Guangdong, Henan, Hubei, Jiangsu, Liaoning, Sichuan, Shanxi, and Yunnan. An important limitation of our analysis is that the official sampling frame largely excludes those without urban registration (*hukou*). In particular, it excludes most of the "floating population" of rural-urban migrants who lack urban *hukous*. In the event, a few respondents (1.2%) did not have urban *hukou* but this group is greatly under-represented in our data.

One adult from each household in the urban CHIP 2002 was selected at random to answer the attitudinal module on life satisfaction. This produced a sample of around 7000 adults. Some descriptive statistics on the respondents are provided in the second column of Table 6. For example, 49% were male and the average age was 46 years.

Our primary measure of life satisfaction was derived from the following survey question: "*Considering all aspects of your life, how satisfied are you?*" Respondents answered the question by positioning themselves on a five point scale. The labelling and assigned numerical value for the scales were as follows: 1= "*very dissatisfied*"; 2= "*not satisfied*"; 3= "*not so satisfied*"; 4= "*satisfied*"; 5= "*very satisfied*".

Figure 1 shows the distribution of responses to the question about life satisfaction. Two-fifths of respondents were generally satisfied. However, very few - 1% - reported being very satisfied. This is a very low percentage compared to other countries. On the other end of the scale, 15% were not satisfied and three times more respondents were very dissatisfied than very satisfied. The most common response was located in our middle range (not so satisfied) but this was merely two percentage points higher than the proportion who were satisfied. It should be noted that if we divided the scale into two – those who are satisfied or very satisfied and those who are not so satisfied, not satisfied or very dissatisfied, the latter group would be the majority.

How does the level of satisfaction in China compare with those found in other countries? Table 1 compares our results with the average levels of subjective well being summarised by Frey and Stutzer (2002), after converting our results to the ten-point scale they use. For this exercise, we have taken our middle response as being neutral. If the wording in China is in fact slightly tinged with negativity, we may be over-stating the level of subjective well-being in the country compared to elsewhere. This caveat aside, from Table 1, average life satisfaction scores in urban China appear to lie in the lower middle of the range internationally. In 2002, urban China is ranked 16th out of 19 in Table 1. Most Western OECD countries in the Table have higher scores of life satisfaction than China. However, China's mean is close to that for Japan, South Korea,

India and France. The two other transitional economies in the Table - Russia and Ukraine - have markedly lower scores.

Table 1 also shows a slight fall in the overall level of contentment from the 6.83 for China in 1995 to 6.47 for urban China in 2002. Differences in the survey methodology could potentially affect this comparison sample. For example, the World Values Survey of 1995 uses a national sample and a question with a four point scale, whereas our data for 2002 uses an urban sample and a five point scale. Consequently, it is useful to look at the time trends provided by the World Values Surveys of China alone, which are more strictly comparable. Table 2 presents the results for the three World Values Surveys of China to date - those for 1990, 1995 and 2000. There is a rise in reported happiness between 1990 and 1995. However, between 1995 and 2000 there is a fall, with the proportion reported being “very happy” falling by almost a half. The proportion that is “not very happy” or “not at all happy” rises from 15.8% to 21.8% between 1995 and 2000. Hence, there is some evidence of a fall in happiness in China from the mid-1990s to the early part of this century. It may be important to recall that this is the period in which urban reforms became more radical and mass unemployment emerged.

4. Methods

In this paper, we undertake two main empirical exercises to analyse life satisfaction. The first is to look at how life satisfaction in general is related to satisfaction with specific aspects of life or, as we shall term them, components of life satisfaction. In our survey, respondents were first asked to rate their levels of satisfaction with different aspects of life. For example, they were asked how satisfied they were with their current income, with their occupation, their family life etc. After assessing their satisfaction with specific aspects of their life, they then went on to answer the general question on life satisfaction: “*Considering all aspects of life, how satisfied are you?*” The structure of the interview therefore underlined our prior that reported satisfaction with different specific aspects of life can be regarded as components of overall life satisfaction.

To provide some indication of how important each component was, we regressed the overall life satisfaction scale, S_i , on the component satisfaction scales, s_{ij} , for J different aspects of life.

$$S_i^* = \alpha + \sum_{j=1}^J \beta_j \cdot s_{ij} + u_i \quad (1)$$

This exercise was essentially descriptive with the coefficients, β_j , on the component satisfaction scales providing some indication of the multivariate correlation between them and overall life satisfaction. We wanted to see which aspects of life had significant associations with life satisfaction, *ceteris paribus*, and which of these associations seemed stronger.

We gauged the contribution of a particular dimension k of satisfaction, s_{ik} , to overall life satisfaction, S_i , in two steps. First, we assessed whether mean satisfaction with an

aspect, \bar{s}_k , was high or low compared to mean overall life satisfaction, \bar{S} ; that is to say we looked at the deviation, $(\bar{s}_k - \bar{S})$. For example, if people's satisfaction with their income is higher than their overall life satisfaction, this dimension might be regarded as a one component of life satisfaction that is relatively favourable. However, the importance of any one component of satisfaction, s_k , is for life satisfaction is given by the relevant coefficient, $\hat{\beta}_k$ from regression (1). For example, it is conceivable that people are very satisfied with their incomes but income satisfaction appears unrelated to overall life satisfaction ($\hat{\beta}_k \approx 0$). Consequently, in the second step, we weight the deviations by the relevant coefficients from regression (1). Each weighted deviation, $\hat{\beta}_k (\bar{s}_k - \bar{S})$, thus provides an estimate of how much a relatively favourable or unfavourable component may be raising or lowering overall life satisfaction. As noted before, this exercise is largely descriptive - a way of presenting patterns in the data - rather than rigorously establishing causal links.

The second empirical exercise was to model life satisfaction as a function of a variety of potential social economic determinants. We estimate an ordered probit model as that allows us to make predictions taking account of the discrete, ordered nature of the dependent variable.

Specifically, we posit a latent variable, S_i^* , for life satisfaction:

$$S_i^* = a_i + \sum_{n=1}^N b_{ni} \cdot X_{ni} + u_i \quad (2)$$

where X_{ni} are N socio-economic variables and u_i is a random error term. Under the ordered probit model, an individual will report a given level satisfaction ($S_i = l$ where $l=0, L$) if the latent variable lies between arbitrary cut-offs, μ_l , whose values are estimated from the data:

$$\Pr(S_i = l) = \Phi(\mu_{l+1} - \sum_{n=1}^N b_{ni} X_{ni}) - \Phi(\mu_l - \sum_{n=1}^N b_{ni} X_{ni}) \quad (3)$$

where $\mu_0 = -\infty$, $\mu_L = \infty$ and $\mu_{L+1} = \infty$.

We can use equation (3) to derive the predicted probabilities of an individual having given levels of satisfaction. This is useful for illustrating the quantitative importance of particular socio-economic determinants. When presenting such predictions we evaluate at the means of the other explanatory variables.

Among the determinants of life satisfaction X_{ni} , we control for individuals' age, sex, marital status and self-reported health status. In order to abstract from the influence of personality traits, we asked a variety of questions designed to identify how amiable the respondent was and included an indicator of these traits among the explanatory variables². The socio-economic determinants include dummy variables for unemployment and for occupation; current household income per capita; and a dummy

variable whether the household had ever experienced a fall in income between 1998 and 2002. As mentioned in Section 2, we also include dummy variables for party membership and for participation in politics. Endogeneity issues still arise: studies of life satisfaction using panel data point to differences in coefficients from those obtained from cross sectional analysis. The traits that make one more likely to be happy may also make one more likely to get married and get a good job. However, we hope to reduce the endogeneity biases that arise by including our variable for personality traits (“amiability”).

5. Components of life satisfaction

In this section, we address two issues. First, how satisfied are Chinese urban residents with different aspects of their lives (Table 3)? A natural benchmark here is overall life satisfaction: are people more (or less) satisfied with one particular aspect of life than they are with life overall? Second, we investigate the extent to which these components seem to affect overall life satisfaction. We do this by regressing overall life satisfaction on variables for satisfaction with specific aspects of life (Table 4). As explained in the previous Section, these two issues can be combined by decomposing life satisfaction into what is attributable to different components. This is done in Table 5, which for each component of satisfaction, presents the mean deviation from overall life satisfaction weighted by the relevant coefficients from Table 4.

Income

We asked three separate questions about satisfaction with household income: satisfaction with current income (absolute income); with income compared to the income of others (relative income); and with income now compared to income in the past (income growth). Satisfaction with absolute and relative income was lower than life satisfaction in general. Only 30% of respondents were satisfied with their current income and 34% satisfied with their relative income. This is perhaps unsurprising: people may naturally always want more income, as implied by the non-satiation axiom of consumer theory. However, rates of satisfaction with income growth were higher, at 44% satisfied, reflecting China’s rapid economic growth.

In the regression analysis, it is satisfaction with income growth that has the largest effect on life satisfaction - indeed its coefficient is larger than that of the other two income-satisfaction scores combined. The coefficients on levels of satisfaction with absolute income and with relative income are roughly equal. The finding that satisfaction with relative inequality is less important than satisfaction with income growth is interesting given the frequent assertion that rises in inequality are the most likely cause of social discontent. Our results suggest that relativities in income do affect subjective well-being. However, dissatisfaction with relative income does not seem that pronounced, nor does it appear to have an overriding effect on life satisfaction.

Table 5 reveals that low levels of satisfaction over income operate to depress life satisfaction - implying a fall of -0.042 on the five point scale.

Occupation and social status

When asking the respondents to consider whether they were content with their social position, we distinguished between occupation and social status. The former is an objective measure of the person's main economic activity; the latter is rather subjective and complex. Respondents were generally (55%) content with their occupation. However, this index was not significantly (or even positively) associated with life satisfaction *ceteris paribus*. Satisfaction with social status was rather more strongly correlated with overall life satisfaction, although it had a smaller impact than any of the three variables for satisfaction with income.

We also asked respondents about their satisfaction with their achievements, a single question phrased to encompass both career and other personal achievements. On average, respondents were less satisfied with their achievements than they were with life overall. However, as with income, it may be in the nature of people to always aspire to achieve more. Satisfaction with personal achievements had the third largest multivariate association with life satisfaction (Table 4), exceeded only by satisfaction with economic growth and with housing.

Table 5 shows that the occupation and social status variables (primarily that concerned with achievement) make a negative contribution to overall life satisfaction (of -0.028).

Opportunities and social mobility

A number of attitudinal questions touched on aspects of social mobility. Generally, speaking, respondents reported rather low levels of satisfaction with their opportunities. Less than a quarter of those who responded were satisfied with their promotion prospects. Less than a third were satisfied with their opportunities for further training and the scope for their skills or talents to be appreciated. Surprisingly, levels of discontent over job security did not seem particularly high - 43% of respondents felt satisfied. However, there was a sizable tail of 6% respondents very dissatisfied. This probably reflects the fact that the threat of retrenchment is far from uniform and risks are much higher for some vulnerable workers than for the majority.

Of the above indicators of satisfaction with social mobility, only that for opportunities for skills and talents to be appreciated had a significant and positive coefficient in Table 4. Satisfaction with promotion opportunities and with job security surprisingly appeared to have a near zero effect on overall life satisfaction. Opportunities for training are negatively associated with life satisfaction in the regression. This perverse association may reflect the fact that retraining is often offered to individuals whose current employment is threatened - for example, employees in unprofitable state owned enterprises.

Welfare provision

People were asked about their satisfaction with various aspects of welfare and service provision: housing, transport and economic security in old-age. The responses were generally less positive than reports of life satisfaction. Satisfaction with transport was not strongly related to life satisfaction in Table 4. Satisfaction over old age security does have a significant positive correlation, *ceteris paribus*, but it has the smallest coefficient in absolute size of any of the statistically significant regressors. By contrast, satisfaction with housing was one of the three components most strongly correlated to life

satisfaction in the multivariate analysis and works to lower overall life satisfaction in Table 5.

Satisfaction with Government Policy

Government policies may have direct impacts on people's subjective well being. Di Tella *et al* (2001) found in their research on 12 European countries and the United States that people care about inflation and unemployment, and appeared to be happier when the inflation and unemployment rates in their countries were lower. In this research, we inquired about satisfaction with inflation, pollution control and urban infrastructure management as policy-related aspects of life. However, questions about satisfaction with prices may reflect concerns over the cost of living and by implication real income, rather than inflation and purely nominal changes in prices *per se*.

Most people in urban China are satisfied with the prices of staple food (76%) and basic goods (57%). 44% reported being satisfied with how state policies impacted on their families. People were somewhat less satisfied with city infrastructure (38%). Satisfaction with pollution control generally obtained the lowest ratings of any of the attitudinal variables we assessed. Only 19% were satisfied and 34% were dissatisfied. Interestingly, although people were generally dissatisfied with pollution, those feelings did not appear to impact on life satisfaction in Table 3. It may be that a professed concern for the environment is only skin deep. Alternatively, it may be that such a concern is essentially other-regarding - for example, a concern for future generations - and/or concerned with future risks, so should not be expected to affect current satisfaction with one's own life. Each of the other policy-related aspects did have significant positive effects in the multivariate analysis. Collectively, the bundle of attitudes towards government policies makes a positive contribution (of 0.043) to overall life satisfaction, although this is primarily due to satisfaction with low food prices.

Social networks and family tradition

The dimension of life that people report being most happy with is their family life, marriage and relationships. Only 4% respondents were not satisfied and nearly 80% were either very satisfied or satisfied. People were also rather content with their social connections – over 53% were either very satisfied or satisfied, fewer than 7% were not satisfied. From the multivariate regression, both variables did have significant positive independent effects on life satisfaction, *ceteris paribus*. However, the coefficients on these variables were rather modest in comparison to those on the more material dimensions of life such as satisfaction with income and housing.

Respondents were also asked about their satisfaction with aspects of their spouse's lives. People appear to set rather lower standards for their spouse's income and achievements than for household income or their own personal achievements. Or at least, they reported higher levels of satisfaction with them. However, satisfaction with spouses' occupation and social status was comparable to that with own occupation and social status. Only the spouse's personal achievements had a substantial coefficient in the model for life satisfaction - the coefficient was just over half as large as that on own achievement. Spouse's social status was positively related to life satisfaction in the regression, but satisfaction with spouse's occupation was perversely negatively related. Satisfaction

with spouse's income had no independent effect, but this is perhaps to be expected given that satisfaction with income in general was already controlled for.

Collectively, satisfaction with social and family relations seems high and contributes 0.023 to higher life satisfaction in Table 5.

6. Socio-economic determinants of life satisfaction

Table 6 provides the key parameters of our ordered probit model for the socio-economic determinants of life satisfaction. Table 7 derives the predicted probabilities from the model evaluating at the means of the explanatory variables.

We begin by considering our hypotheses on income and unemployment. As with cross-sectional studies for other countries, income is positively associated with subjective well-being in urban China. This is apparent in the raw data. Figure 2 plots life satisfaction scores for each household income per capita decile. After the lowest decile, there is a monotonic relation: higher household income per capita is associated with higher levels of satisfaction. A significant positive effect of income on satisfaction is also evident in the multivariate model. Indeed, the log of household income per capita is the third most significant determinant in the model. Doubling household income per capita is predicted to raise the proportion satisfied or very satisfied from 39% to 46%, evaluating at the mean of the explanatory variables. In addition, we identify a significant negative effect of experiencing a fall in household income at any time point in the five-year period before the survey. Such an event reduces the predicted proportion satisfied or very satisfied from 40% to 36%. One reason for experiencing a fall in income is unemployment. The direct effect of unemployment, controlling for income (and for experiencing a fall in income), is large. *Ceteris paribus* the pure effect of unemployment raises the proportion not satisfied or very dissatisfied from 16% to 21%.

Next, we examine the effects of health and medical insurance. Reported ill health has powerful adverse effects on subjective well being. Health status was rated on a five point scale, with four dummy variables being included to capture its effects on satisfaction (being "very healthy" was the default category). The dummy variable for being very unhealthy has the largest coefficient in absolute terms in the model. Someone who is reported to be "very unhealthy" has only a 14% probability, at the means of other variables, of being satisfied or very satisfied compared to 44% for the very healthy. There may be an element of reverse causality - a good emotional state is believed to boost the body's immune system against disease. However, it seems plausible that the direction of causality is largely the other way. Aside from these direct effects of illness, ill health may also lead to economic hardship, by lowering earnings and requiring large outlays for medical treatment. We found possession of medical insurance to have significant effects on subjective well-being. Individuals without any medical insurance were predicted to have an 18% chance of being dissatisfied compared to 12% for those with state medical insurance. This may reflect anxiety over the risk of illness.

More generally, urban entitlements in China depend on the place of residential registration (*hukou*). Our sample is of urban residents and most rural-urban migrants are excluded from the sampling frame. There are a few (less than 1%) people with hukous in rural areas far away from the survey sites. These rural-urban migrants have been

included in the sample because of their purchase of urban temporary status. We find that this small proportion of people was the least content compared with those with urban hukou and with rural counterparts with local registration. This result is very significant, in a statistical sense, although the small numbers involved imply some caution when drawing inferences from it.

Chinese Communist Party (CCP) members accounted for 36% of respondents and tended to be more content than non-members. Although CCP members tend to receive a wage premia (Appleton *et al.*, 2005), the effect we identify may reflect wider privileges since we control for household income. Interestingly, it is membership of the CCP rather than membership of a political party that appears to raise satisfaction: the satisfaction levels of members of minor political parties do not appear to differ from those who are not members of any political party. However, participating in politics or expressing a general interest in it does tend to increase life satisfaction. This is particularly interesting because half of those expressing an interest in politics or political participation were not Communist Party members. Sometimes it is feared that an interest in politics outside of the Party control may encourage social discontent. Our results provide some *prima facie* evidence against such a fear.

In other countries, people with religious beliefs are often found to report higher levels of life satisfaction. Our survey did not directly ask a question about this, as it was thought few people in China would admit to having religious beliefs. As a proxy, we inquired about whether respondents believed in religious tolerance. Answering in the affirmative to that question was associated with significantly higher life satisfaction, *ceteris paribus*.

Occupation is used as an indicator of social classification in the model. The default occupation in our model - unskilled manual workers - is predicted to be the least satisfied, *ceteris paribus*. High and middle range government officials report the highest levels of satisfaction. Professionals, office workers and skilled manual workers report higher levels than unskilled manual workers, but the difference is significant only at the 10% level.

Finally, we turn to personal characteristics. It will be recalled that we included as a control variable an index for having an amiable personality. This variable was designed to control for personality traits so as to allow the impact of the socio-economic variables of interest to be estimated without bias. Having an amiable personality (i.e. the index moving from zero to one) reduces the probability of being dissatisfied, other things being equal, from 19% to 9%. It should be noted that the other results in this section are robust to the exclusion of the index of amiability. When the variable is dropped from the model, there is no change in which explanatory variables are significant, nor any changes in the sign of their coefficients. Any changes in the size of the coefficients are small (less than 10%).

Our other personal characteristics are more conventional - age, sex and marital status. At the means of other characteristics, a man has an 18% probability of being dissatisfied; a woman has a 14% probability. This finding may be surprising given that women in urban China appear to have suffered increased wage discrimination and risk of unemployment since the economic reforms (see, for example, Li and Gustafson, 2000; Knight and Song, 2005; Appleton *et al.*, 2005). We estimated the model on sub-samples of male and female respondents (results not reported in Tables). Aside from some

provincial dummy variables, Wald tests revealed that only the index of amiability had a significantly different coefficient across the two samples (it was significantly larger for men).

The relationship between satisfaction and age cohort exhibits a U curve pattern. Both younger and older people tend to be happier than the middle aged. The turning point when aging switches from causing discontent changed into content is the year of 40. For example, Table 7 predicts that 20% of those aged 40 years old are dissatisfied compared to 12% of those aged 20 and 60.

Marriage is associated with increased satisfaction. Single people have a 27% probability of being dissatisfied, other things being equal, compared to 15% for those who are married. There may be an element of reverse causality in this relationship (happy people being more attractive as marriage partners), but it seems unlikely to explain most of the effect. In particular, the widowed and the divorced appear closer to single people in their relatively low levels of satisfaction. Having dependent children increases satisfaction, as does having dependent parents living in the household, but both variables only have p-values of around 10%. Perhaps surprisingly, these two variables had larger coefficients and were much more significant in the sub-sample for men than in the sub-sample for women.

7. Conclusion

Life satisfaction in urban China is rather low compared to other countries and satisfaction appears to have fallen in the country as a whole between 1995 and 2000. However, life satisfaction is not exceptionally low - it is comparable to figures reported for France or Japan, and well above the abysmal levels reported Russia and Ukraine. Only 12% of respondents in our survey reported being "*not satisfied*" and 3% "*very dissatisfied*" compared to 39% "*satisfied*" or 1% "*very satisfied*". However, it should be noted that the proportion "*very satisfied*" is low by international standards.

Many of the determinants of life satisfaction in urban China are similar to those found important in studies of people in other countries. There is a negative effect of unemployment and a positive income result. Marriage and good health are associated with greater life satisfaction. Men report lower satisfaction and there is a U-shape in age. In many respects, therefore, the patterns in data for urban China look remarkably similar to those the structure of well-being equations in rich Western countries. This is despite the marked differences between China and the West in terms of income, religion etc.

We have argued that the study of life satisfaction in China is of particular importance given concerns over social discontent and political instability in the country. Here, our paper has some interesting findings. In the life satisfaction equation, the conventional positive income and negative unemployment effects provide some support for the view that future economic performance may be of particular importance. Our analysis of the components of life satisfaction reveals both fairly high levels of satisfaction with recent income growth and that satisfaction with growth has a positive multivariate correlation with overall life satisfaction. But one perhaps under-emphasised aspect of China's economic performance has been low inflation - our paper shows high levels of satisfaction with prices and this is strongly related to life satisfaction. By contrast,

reported dissatisfaction with job insecurity and with pollution - arguably two downsides of China's recent development - does not appear to impact on overall life satisfaction.

In contrast to its economic accomplishments, China has moved slowly on political reform. Our analysis shows that Communist Party members report higher levels of life satisfaction, *ceteris paribus*, than non-members. Interestingly, participation in politics (by no means confined just to Party members) is also associated with higher life satisfaction. Although one must be careful not to infer too much from such results, they suggest that the regime has a reasonably satisfied powerbase and that political participation need not foster discontent.

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Table 1: Mean Life Satisfaction in Selected Countries

Country	Average life satisfaction
Denmark	8.16
Switzerland	8.02
Sweden	7.77
U.S.	7.67
Australia	7.58
Britain	7.46
Brazil	7.15
Taiwan	6.89
China 1995	6.83
Nigeria	6.82
France	6.78
South Korea	6.69
Japan	6.61
India	6.53
Urban China 2002*	6.47
Peru	6.36
South Africa	6.08
Russia	4.45
Ukraine	3.95

Sources: Selected from Frey and Stutzer (2002); * denotes authors' calculation from this sample.
Note: This is a scale between 1 and 10, 1=lowest score of satisfaction, and 10=highest.

Table 2: Changes in reported happiness over time in China, World Values Survey

	1990	1995	2000
Very happy	27.5	22.7	11.5
Quite happy	39.1	60.9	66.3
Not very happy	28.6	14.1	19.0
Not at all happy	2.1	1.7	2.8
Don't know	2.1	0.6	0.4
No answer	0.6	0.0	0.0

Source: online analysis of World Values Survey data at <http://www.worldvaluessurvey.org/>

Table 3: Satisfaction with various aspects of life (percentages)

How satisfied are you with:	Very dissatisfied	Not Satisfied	Not so satisfied	Satisfied	Very satisfied	No response
All aspects of your life considered together	3.31	11.55	42.1	38.89	1.03	3.12
<i>Income:</i>						
Current household income?	9.72	18.81	39.89	28.3	2.08	1.2
Income compared with the people you know?	6.32	16.4	40.09	33.2	1.29	2.7
Income compared with what you earned before?	5.71	14.22	34.83	42.24	1.68	1.32
<i>Occupation and social status:</i>						
Current occupation?	3.57	7.83	24.28	48.9	5.4	10.02
Current social status?	5.69	15.58	32.04	41.01	1.86	3.82
Career achievement/personal development?	5.75	17.45	39.49	27.71	1.2	8.4
<i>Opportunities and social mobility:</i>						
Chances for job promotion?	5.35	17.86	37.08	18.25	0.59	20.87
Chances for getting your talents /skills appreciated?	4.44	16.54	41.79	25.59	0.99	10.65
Opportunities for training?	4.92	15.7	31.52	25.46	1	21.4
Job security?	6.01	12.84	25.03	41.76	1.39	12.67
<i>Welfare provision:</i>						
Economic security in old age?	7.74	14.15	31.59	33.34	1.82	11.35
Current housing conditions?	8.51	15.88	34.63	37.54	2.91	0.53
Means of transportation?	5.16	17.57	32.93	35.74	1.4	7.2
<i>Government policies & environment:</i>						
General impact of state policies on your family?	2.61	8.7	34.83	42.27	1.76	9.82
Current price of basic foods?	0.59	3.27	18.08	73.12	2.57	2.37
Current price of basic daily needs (clothing and daily goods)?	1.32	6.98	32.64	54.96	1.56	2.54
Public infrastructure of the city?	5.62	15.11	38.72	37.07	1.39	2.09
Current level of pollution?	10.61	23.29	44.5	17.78	0.97	2.85
<i>Family and social connections:</i>						
Social relations with others (guanxi)?	1.1	5.69	30.98	51.42	1.38	9.44
Family life, marriage and relationships?	0.9	3.11	11.54	69.45	9.46	5.54
Spouse's current income?	7.44	16.83	31.79	33.08	2.32	8.54
Spouse's current occupation?	4.8	12.18	23.68	43.33	4.06	11.95
Spouse's current social status?	5	13.59	27.85	41.37	2.24	9.95
Spouse's current achievements?	4.39	13.88	32.67	34.66	1.85	12.55

Observations = 6976

Source for this and all subsequent tables: Author's calculations.

Table 4: Regression of life satisfaction on satisfaction with specific aspects of life

Satisfaction with the following aspects:	Coefficient	T-statistic	
<i>Income:</i>			
Current household income	0.083	5.95	***
Income compared with the people you know	0.075	5.78	***
Income compared with what you earned before	0.157	10.48	***
<i>Occupation and social status:</i>			
Current occupation	-0.008	-1.01	
Current social status	0.049	4.35	***
Career achievement/personal development	0.107	10.59	***
<i>Opportunities and social mobility:</i>			
Chances for job promotion	0.00005	-0.01	
Chances for getting your talents /skills appreciated	0.088	9.75	***
Opportunities for training	-0.026	-3.65	***
Job security	-0.008	-0.92	
<i>Welfare provision:</i>			
Economic security in old age	0.016	2.28	***
Current housing conditions	0.116	9.23	***
Means of transportation	0.000	0.05	
<i>Government policies & environment:</i>			
General impact of state policies on your family	0.028	3.55	***
Current price of basic foods	0.073	5.12	***
Current price of basic daily needs (clothing and daily goods)	0.033	2.45	***
Public infrastructure of the city	0.065	5.37	***
Current level of pollution	0.0004	0.04	
<i>Family and social connections:</i>			
Social relations with others (guanxi)	0.022	2.7	***
Family life, marriage and relationships	0.030	3.45	***
Spouse's current income	-0.002	-0.18	
Spouse's current occupation	-0.020	-2.04	***
Spouse's current social status	0.058	6	***
Spouse's current achievements	0.025	2.22	***
Intercept	0.032	0.57	
Adjusted R square	0.371		
F-value	172.57		
Number of Observations	6977		

*** denotes the statistics significance level at 1% or lower, ** between 1% and 5%, * between 5% and 10%.

Table 5: Decomposition of life satisfaction into its components

	[1] Mean satisfaction	[2] Deviation from mean life satisfaction	[3] Contribution of deviation to life satisfaction
Satisfaction with the following aspects:			
All aspects of your life considered together:	3.235	N.A.	N.A.
Income:			
Current household income	2.941	-0.294	-0.024
Income compared with the people you know	3.069	-0.166	-0.012
Income compared with what earned before	3.202	-0.033	-0.005
Occupation and social status:			
Current occupation	3.497	0.262	-0.002
Current social status	3.185	-0.050	-0.002
Career achievement/personal development	3.013	-0.222	-0.024
Opportunities and social mobility:			
Chances for job promotion	2.885	-0.351	0.000
Chances for getting your talents /skills appreciated	3.024	-0.211	-0.019
Opportunities for training	3.024	-0.211	0.005
Job security	3.215	-0.020	0.000
Welfare provision:			
Economic security in old age	3.083	-0.153	-0.002
Current housing conditions	3.105	-0.130	-0.015
Means of transportation	3.115	-0.120	0.000
Government policies & environment:			
General impact of state policies on your family	3.353	0.118	0.003
Current price of basic foods	3.756	0.521	0.038
Current price of basic daily needs (clothing and daily goods)	3.497	0.262	0.009
Public infrastructure of the city	3.138	-0.097	-0.006
Current level of pollution	2.745	-0.490	0.000
Family and social connections:			
Social relations with others (guanxi)	3.511	0.276	0.006
Family life, marriage and relationships	3.884	0.648	0.019
Spouse's current income	3.066	-0.169	0.000
Spouse's current occupation	3.337	0.102	-0.002
Spouse's current social status	3.247	0.012	0.001
Spouse's current achievements	3.180	-0.056	-0.001

Note:

[2]=[1] minus the mean level of life satisfaction (3.24)

[3]=[2] multiplied by the corresponding coefficient in Table 3

**Table 6: Life satisfaction as a function of socio-economic determinants
Ordered Probit Regression**

Variable	Mean value or percentage	Coefficient	Robust T-value	Sig.
Experienced a fall in HH income	0.2574	-0.1052	-3.28	***
Household income per capita (log)	8.8186	0.1807	9.40	***
Currently unemployed	0.0245	-0.2054	-2.24	***
Personal characteristics:				
Age (in year)	45.642	-0.0631	-8.91	***
Age in squared term		0.0008	10.52	***
Male	0.4908	-0.1550	-5.14	***
Single (never married)	0.0286	-0.4075	-5.11	***
Divorced	0.0161	-0.2717	-2.53	***
Widow / widower	0.0258	-0.2750	-2.83	***
Amiable personality	0.2523	0.4765	14.65	***
Dependent children	0.5525	0.1532	1.61	
Dependent parents	0.0674	0.1895	1.75	*
Belief in religious tolerance	0.8858	0.0964	2.09	**
Self-reported health status:				
Rather good health	0.3963	-0.0934	-2.43	***
So-so good health	0.3347	-0.2422	-6.00	***
Rather poor health	0.0563	-0.3264	-4.85	***
Very poor health	0.0052	-0.9257	-4.45	***
Medical insurance coverage:				
Medical insurance-Serious-illness coverage	0.3619	-0.0860	-2.40	***
Self-paid medical insurance	0.0164	-0.1259	-1.11	
No medical insurance	0.2993	-0.2459	-6.12	***
Other medical insurance	0.0397	0.1733	2.21	**
Political factors:				
Political participation	0.3021	0.1583	4.99	***
Other political party member	0.0133	-0.0523	-0.44	
No political party affiliation	0.6300	-0.1215	-3.83	***
Occupation:				
Owner/manager of private business	0.0017	0.2941	1.51	
Owner of individual business	0.0266	0.0399	0.45	
Professionals	0.1469	0.0855	1.84	*
High rank government official / managerial	0.0199	0.2642	2.55	**
Middle-rank government officials/ managers	0.0602	0.1837	2.90	*
Office worker	0.1642	0.0765	1.65	*
Skilled workers	0.1226	0.0831	1.69	*
Commerce / service worker	0.0780	0.0564	1.02	
Other (non specified)	0.0153	-0.0161	-0.14	
Hukou location:				
Local suburban rural	0.0090	0.1715	0.99	
Outside urban	0.0040	0.2985	1.40	
Outside rural	0.0031	-0.5429	-2.88	***
Number of observations:	6761			
Log Likelihood:	-7401			
Pseudo R ²	0.0634			

Notes: Default values are: currently employed, married, not amiable, very good health, not active in politics, Communist Party/League membership, medical treatment covered by the state agents, hukou in local urban area, non-skilled manual worker. Province dummies included but not reported for brevity.
*** denotes the statistics significance level at 1% or lower, ** between 1% and 5%, * between 5% and 10%.
Standard errors are corrected for possible unobserved cluster-level correlations.

Table 7: Predicted probabilities of satisfaction (derived from Table 6)

	Very dissatisfied	Not Satisfied	Not so satisfied	Satisfied	Very satisfied
Baseline	4.9%	10.9%	45.4%	38.3%	0.6%
Not experienced a fall in HH income	4.6%	10.5%	45.0%	39.3%	0.6%
Experienced a fall in HH income	5.7%	12.0%	46.4%	35.4%	0.5%
Household income per capita is twice the mean	3.3%	8.5%	42.3%	44.9%	1.0%
Currently employed	4.8%	10.8%	45.3%	38.4%	0.6%
Currently unemployed	7.2%	13.8%	47.5%	31.2%	0.3%
Personal characteristics:					
Age in year:					
= 20	3.5%	8.9%	42.9%	43.8%	0.9%
=30	5.8%	12.1%	46.5%	35.2%	0.5%
=40	6.7%	13.2%	47.2%	32.5%	0.4%
=50	5.8%	12.0%	46.4%	35.3%	0.5%
= > 60	3.5%	8.8%	42.8%	44.0%	0.9%
Female	4.2%	9.8%	44.2%	41.0%	0.7%
Male	5.7%	12.0%	46.4%	35.4%	0.5%
Married	4.7%	10.6%	45.1%	39.1%	0.6%
Single	10.2%	16.6%	48.0%	25.0%	0.2%
Divorced	8.0%	14.5%	47.8%	29.5%	0.3%
Widow (er)	8.0%	14.6%	47.8%	29.3%	0.3%
No dependent children	5.8%	12.1%	46.5%	35.2%	0.5%
Dependent children	4.2%	10.0%	44.3%	40.8%	0.7%
No dependent parents	5.0%	11.1%	45.6%	37.8%	0.6%
Dependent parents	3.3%	8.5%	42.3%	44.9%	1.0%
Does not believe in religious tolerance	5.8%	12.1%	46.5%	35.2%	0.5%
Belief in religious tolerance	4.8%	10.7%	45.2%	38.7%	0.6%
Personality:					
Not amiable	6.2%	12.6%	46.8%	33.9%	0.4%
Amiable	2.2%	6.5%	38.4%	51.4%	1.5%
Health status (self assessment):					
Very health	3.6%	9.0%	43.1%	43.5%	0.9%
Health	4.4%	10.2%	44.7%	40.0%	0.7%
So-so health	6.0%	12.3%	46.6%	34.6%	0.4%
Not health	7.1%	13.6%	47.4%	31.6%	0.3%
Very unhealthy	19.2%	22.1%	44.4%	14.2%	0.0%
Political participation and affiliation:					
Not interested in political affairs	5.4%	11.6%	46.0%	36.5%	0.5%
Interested in politics affairs	3.9%	9.4%	43.6%	42.3%	0.8%
Communist Party/League members	4.1%	9.8%	44.2%	41.1%	0.7%
Other political Party members	4.6%	10.5%	45.0%	39.1%	0.6%
Not affiliated to any political Parties	5.4%	11.5%	46.0%	36.6%	0.5%
Type of medical Insurance:					
Covered by state medical insurance	3.4%	8.7%	42.6%	44.4%	0.9%
Serious illness-coverage (self-paid by proportion)	3.8%	9.4%	43.6%	42.4%	0.8%
Commercial self-purchased medical insurance	4.0%	9.7%	44.0%	41.6%	0.8%
No medical insurance	5.8%	12.1%	46.4%	35.3%	0.5%
Other medical insurance	2.4%	6.8%	39.2%	50.2%	1.4%

Table 7: Predicted probabilities of satisfaction (contd.)

Occupation / social status:					
Owner/manager of private business	2.9%	7.8%	41.1%	47.0%	1.1%
Owner of individual business	5.0%	11.1%	45.6%	37.7%	0.6%
Professionals	4.6%	10.5%	45.0%	39.3%	0.6%
High rank government official / managerial	3.1%	8.2%	41.8%	45.9%	1.0%
Middle-rank government officials/ managers	3.7%	9.2%	43.3%	43.0%	0.8%
Office worker	4.7%	10.6%	45.1%	39.0%	0.6%
Skilled workers	4.6%	10.5%	45.0%	39.2%	0.6%
Unskilled workers	5.5%	11.7%	46.2%	36.1%	0.5%
Commerce / service worker	4.9%	10.9%	45.4%	38.2%	0.6%
Other (non specified)	5.7%	11.9%	46.3%	35.6%	0.5%
Location of ID registration:					
ID registered in local urban sector	4.9%	10.9%	45.4%	38.2%	0.6%
ID registered in local rural sector	2.9%	7.9%	41.2%	46.9%	1.1%
ID registered in outside urban	3.1%	8.2%	41.8%	45.8%	1.0%
ID registered in outside rural	11.6%	17.8%	47.8%	22.7%	0.1%

Note: Probabilities are evaluated at the means of other explanatory variables.

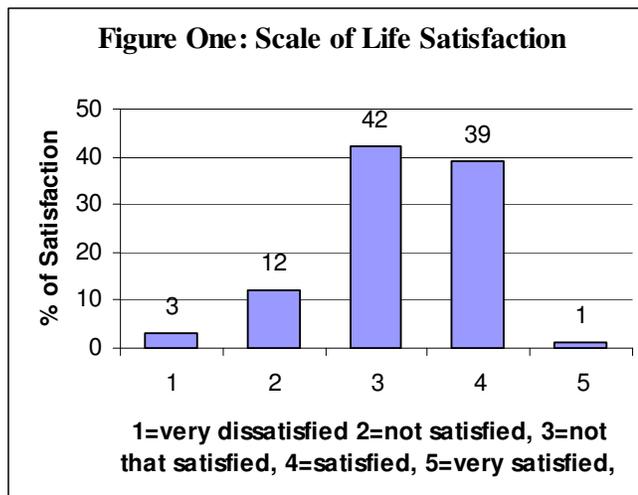
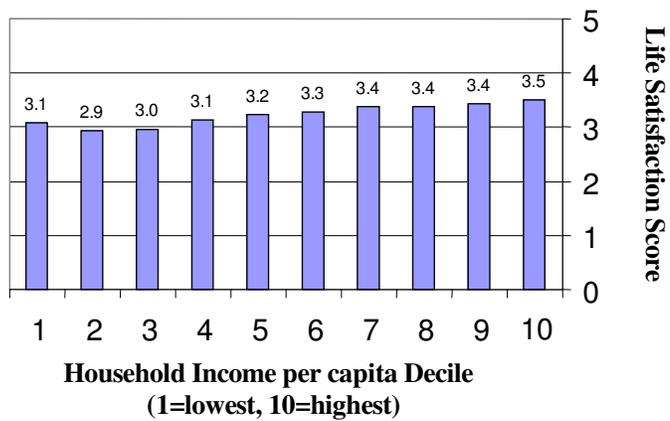


Figure Two: Life Satisfaction Score by Income Decile



Notes

¹ Studies in other countries suggest that workers may report real wage falls that cannot be corroborated with firm-level data. In urban China, real wages have been rising strongly. However, some households will have experienced falls in income due to unemployment, changes in labour supply or other factors.

² Three questions were asked to assess amiability: (1) whether the person considered themselves a pleasant person at home; (2) whether the person got along well with their colleagues; (3) whether the person were liked by their employer. The three questions were presented as statements about themselves and respondents had to agree or disagree on a five point scale. A dummy variable for having an amiable personality was created which was one if they replied on the top two points of the scale (agree or strongly agree) for all three questions.