

China's Life Satisfaction 1990-2010

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**Abstract**

*Despite its unprecedented growth of output per capita, China in the last two decades has essentially followed the life satisfaction trajectory of the central and eastern European transition countries – a U-shaped swing and a declining or nil trend. As in the case of the European countries this pattern is principally due to a pronounced rise in unemployment followed by a mild decline, the dissolution of the social safety net, and growing income inequality. The burden of worsening life satisfaction in China has fallen chiefly on the lowest socio-economic groups. An initially highly egalitarian distribution of life satisfaction has been replaced by an increasingly unequal one, with the life satisfaction of the lowest third of the income distribution decreasing absolutely while that of the upper third increases.*

The purpose of this article is chiefly to describe the trend in subjective-well-being (SWB) during China's transition from socialism to capitalism and the differences in SWB by socio-economic status. There are many who believe that well-being is increased by economic growth, and that the higher the growth rate, the greater the increase in well-being. It is also commonly thought that the transition

from socialism to capitalism is conducive to greater well-being, because incomes will be raised by a more efficient allocation of resources and increased incentives for private investment. There could hardly be a better country than China to test these expectations. As it turns out, the evidence presently available does not support them.

China's transition has been marked by perhaps the highest two-decade rate of growth in gross domestic product (GDP) per capita ever seen, a remarkable 8 percent per year or more (Heston et al 2011). Between 1990 and 2009 per capita consumption in China (in constant dollar terms) multiplied four-fold. Household appliances – quite rare at the start of the period – had become commonplace (OECD 2010b, p. 21). By 2008, almost one in ten urban households owned a car and China had become the world's leading automobile producer (OECD 2010a, pp. 6, 10).

China's performance with regard to growth of output contrasts sharply with that of the transition countries of central and Eastern Europe, where, from around 1990 to the present, output at first collapsed and then gradually recovered. In the European countries' transition, life satisfaction also collapsed and recovered, but the emergence of adverse employment conditions exerted a substantial drag on the upturn of life satisfaction (Easterlin 2010, pp. 87ff). As shall be seen, urban employment conditions in China also worsened during the transition. China's disparate experience compared with Europe, with GDP trending sharply upward while urban employment conditions worsen, provides a unique opportunity to study the relative impact on life satisfaction of income growth versus deteriorating employment during the transition to capitalism.

The principal measure of well-being used here relates to self-reported feelings of satisfaction with life, the response to the following type of question:

All things considered, how satisfied are you with your life as a whole these days? Please use this card to help with your answer.

1 'Dissatisfied' 2 3 4 5 6 7 8 9 10 'Satisfied'

Estimates here of mean life satisfaction or similar SWB measures are the average of individuals' integer responses to this type of question.

Until recently, economists assumed that measures of an individual's external (observable) circumstances, especially one's income, were sufficient to assess well-being, and self-reports of subjective feelings were dismissed out of hand (Fuchs 1983, p.14; McCloskey 1983, p. 514). The 2008 Stiglitz-Sen-Fitoussi Report, commissioned by French President Sarkozy to propose more meaningful measures of well being, is indicative of the sea-change that has taken place. After advocating the official collection of a variety of objective measures, the Report of the 25-member Commission (including 5 Nobel prize winners in economics) states:

Research has shown that it is possible to collect meaningful and reliable data on subjective as well as objective well-being.... [T]he types of questions that have proved their value within small-scale and unofficial surveys should be included in larger scale surveys undertaken by official statistical offices. (Stiglitz et al, 2008)

The life satisfaction measure used here is one of those advocated in the report. We do not claim that it is the best single or most comprehensive measure of well-being, but it is surely of considerable interest to see what the Chinese people say about their feelings of well-being in a period of such momentous change. In what follows we use the terms "life satisfaction" and "happiness" interchangeably as

measures of subjective-well-being. Although not identical in concept they typically exhibit quite similar trends (see, e.g., Easterlin 2010 p. 103).

To construct a picture of China's life satisfaction experience is somewhat like solving a jig-saw puzzle. There are no comprehensive and tested time series available, not only for life satisfaction, but for other potentially relevant magnitudes, such as unemployment. But, as is often the case in historical study, there are numerous pieces of evidence available. It is the task of the social scientist to see if these can be put together to form a coherent picture. This is the aim of the present article.

### **Previous Studies**

There is a voluminous literature on China's remarkable economic growth, but studies of subjective well-being are few in number and quite recent. They offer mixed results – from life satisfaction “falling” to “constant,” to “rising.” On the downtrend side there is a study by Brockmann et al (2009). Kahneman and Krueger's (2006) reading of the evidence tends toward “constant,” but “declining” is also viewed as within the realm of possibility. Two Gallup reports offer a “flat line” conclusion (Burkholder 2005, Crabtree and Wu 2011) as does a study by Knight and Gunatilaka (2011). The basis of the Knight-Gunatilaka conclusion is an earlier collaborative article by one of the current authors (Easterlin and Sawangfa 2010). A recent PEW report sees China, along with other developing countries, as experiencing rising life satisfaction along with rising incomes (PEW Research Center 2011).

Appleton and Song (2008, p.2329) report a decline from 1995 to 2000, but an increase from 1990 to 1995. Their judgment, however, is based on responses to the WVS question on happiness, not life satisfaction. The initial increase that they report is doubtless due to a change between 1990 and 1995 in the instructions to interviewers that biased upward the 1995 responses on happiness relative to those in 1990 in many countries, including the European transition countries (for a detailed discussion, see Easterlin et al 2010). Because of the bias in the happiness responses, the present analysis uses only the responses to the life satisfaction question in the WVS.

Studies of life satisfaction by Chinese scholars are growing in number, but focus on point-of-time differences (Chen and Davey 2008). One of China's premier survey organizations, Horizon Research, has conducted a number of valuable quality of life surveys that include questions on life satisfaction. These data are reported in the "Blue Books" issued annually by the Chinese Academy of Social Sciences (see, e.g., Chinese Academy of Social Sciences 2011). A valuable discussion of changes since the previous year is included, but there is no discussion of longer term movements. Clearly the nature of the time trend in life satisfaction during China's transition calls for further analysis.

## **Data and Methods**

The life satisfaction data used here are from six surveys conducted by five different survey organizations, and span various segments of the period 1990-2010. Most of the surveys ask about overall life satisfaction, but several refer to roughly

equivalent concepts such as “happiness” or “ladder of life”. The questions vary somewhat in their specific wording and particularly in the number of response options (see Appendix A); hence we examine the surveys individually rather than pooling the data. The survey dates are typically intermittent (only two surveys include some annual data), so we focus on the longer-term movement during the two decades.

Most of the surveys tend to be disproportionately urban (see, e.g, Inoguchi 2008, PEW Research Center 2011). But economic growth too is disproportionately urban during this period, with urban incomes rising markedly relative to rural (CASS 2011, p44). Knight and Song (2005) note that the urban sector was the focus of China’s economic policy in this period. Xu (2011, p. 214) gives data demonstrating the quantitative importance in China’s growth of the largely urban Special Economic Zones created to attract foreign investment and foster economic growth. Thus, while the life satisfaction data have an urban bias during this period, so too does economic growth, and it seems reasonable to compare the two.

In all of the series but one, total, rather than urban data are used in what follows, chiefly to maximize sample size in a country as vast as China. Moreover, separate urban data are not always available, and even when reported, the definition of urban frequently varies among the survey organizations and in some cases even across surveys by the same organization. Some data for the rural population are consequently included, but rural life satisfaction appears to move similarly to urban (Brockmann et al, 2009; Crabtree and Wu 2011, p.4).

The Horizon surveys were initially conducted only in cities. Although gradually expanded to incorporate some towns and villages, the surveys give no estimates for the total population. Hence, for the Horizon surveys we analyze the series for cities, the series with the longest time span.

The analysis of trends in life satisfaction differences by socio-economic status (SES) is based on the World Values Survey (WVS), whose four surveys (1990, 1995, 2001, and 2007) come closest to spanning the entire period. Following Inglehart et al (1998), the responses for each socio-economic status variable are arrayed from high to low and divided approximately into thirds, yielding upper, middle, and lower segments of the distribution. For each SES third of the population, life satisfaction is measured in the same way as in Inglehart et al (1998), as the proportion responding with values of 7 to 10 on a scale from 1 (low) to 10 (high). Education is measured in terms of the highest level of education completed, except for the first survey date when it relates to age at which education was completed. Income is based on the decile of income reported by respondents.

## **Results**

Longer term movement -- China's life satisfaction declines from 1990 to around 2000-2005 and then turns upward, forming, for the period as a whole, a U-shaped pattern (Fig. 1). A precise comparison of beginning - and end-of-period values is not possible because no single survey spans the full period. There appears, however, to be some overall decline in life satisfaction. A downward tilt along with the U-shape is evident in the series with the longest time span, the World Values

Survey. The other series in Figure 1 each cover shorter periods, spanning various segments of the U. There are fewer observations before 2000 than one might like, but in every series the pre-2000 observation(s) are higher than those in the 2000-2005 trough. Similarly, observations after 2005 are higher than those in the trough, with the slight exception of the Asiabarometer series. For series with observations before and after the trough, the post-trough observations are almost always lower than the pre-trough, and there is no evidence of a marked uptrend in life satisfaction of the sort one might have expected based on the four-fold increase in per capita consumption. The one exception is the Gallup 2 series, but in this case the pre-trough date, 1999, borders on the trough.

The finding of a life satisfaction trough for China around 2000-2005 is reminiscent of a similar result previously reported for Latin America, where life satisfaction in the period 1994-2006 also followed a U-shape, bottoming out around 2002 (Easterlin et al 2010). It is possible that similar life satisfaction troughs occurred around this time in other developing countries, because there was a serious setback to growth of the world economy generally in the first part of the 2000-2010 decade (United Nations, 2002, 2003). South Africa, South Korea, and Turkey, developing countries for which several WVS observations are available, all have a decline and upturn in life satisfaction with a trough early in the millennium, a pattern similar to Latin America and China.

China's long-term movement of life satisfaction is like that of other transition countries, in that life satisfaction declines early in the transition and then recovers, but China's is more attenuated, forming a U rather than a V. China's decline in life



satisfaction, 0.76 points from the initial to trough WVS observations, is of the same order of magnitude but a little less than the average (0.91) of the six European transition countries for which similar peak to trough calculations can be made (the former GDR, Estonia, Latvia, Lithuania, Belarus, and Russia; see Easterlin 2010, pp 109-110). In the European transition countries, as for China, it is doubtful that the recovery raises life satisfaction above pre-transition values (Easterlin 2010, pp. 104-106). In China, however, the average level of life satisfaction from 1990 to 2007 (above 6.5 according to the WVS) was higher than in most of the European transition countries during that period.

In point-of-time international comparisons life satisfaction and GDP per capita are significantly positively correlated (Deaton 2008, Stevenson and Wolfers 2008). The 1990 WVS value for life satisfaction in China is high relative to its GDP per capita. Of the 35 countries in the 1990 WVS for which GDP per capita estimates are available, China ranks 18th in terms of life satisfaction, just below most of the developed countries. In terms of GDP per capita it ranks 33rd. Based on its GDP per capita China's life satisfaction would be expected to be 6.09; actually, it is 7.29. This expected value is estimated from a regression of life satisfaction on GDP per capita for the 34 countries other than China included in the ranking above.

The 1990 value contributes to the judgment that life satisfaction in China declined in the last two decades. But is this value credible? One reason for thinking so is that in 1990 virtually all socio-economic groups in China – from the lowest to the highest stratum – report high and fairly similar mean levels of life satisfaction, in excess of 7.0. These high levels appear throughout the distributions by education,

occupation, and income. Hence, the high overall average cannot be attributed to a disproportionate representation in the survey of high life satisfaction groups, because life satisfaction is high across the socio-economic spectrum.

Confidence in the 1990 data is also bolstered by the fact that the internal structure of the data set is much like that observed in happiness data sets for other countries. A micro-economic happiness regression of the usual type (Blanchflower and Oswald 2004, Frey and Stutzer 2002, Layard 2005) yields coefficients on variables such as age, marital status, income, health, and unemployment with signs like these commonly found in other countries. These coefficients are not always significant, probably because of the low degree of variability in life satisfaction in the 1990 data for China. A 1990 microeconomic regression for Russia yields results similar to China in terms of both the signs and lack of significance of the coefficients.

Finally, as we shall see, the high 1990 level of life satisfaction in China is consistent with the quite low unemployment rate and the extensive social safety net prevailing at that time – workers were essentially guaranteed life-time positions and the benefit package associated therewith. Under communism China's economic and social policies were modeled on Russia, and China's high level and quite egalitarian distribution of life satisfaction parallels similar findings in the fragmentary data available for Russia (see Easterlin 2010, pp 104-106 and the analysis of socio-economic differentials below). As Brainerd and Cutler point out with regard to the USSR (2005, p. 125), “[b]efore 1989, Russians lived in a country that provided economic security: unemployment was virtually unknown, persons were guaranteed and provided a standard of living perceived to be adequate, and

microeconomic stability did not much affect the average citizen.” This was also largely true of urban China in 1990, and the high life satisfaction relative to GDP per capita observed at that date appears consistent with such conditions.

Recognition of the U-shape of China’s changing life-satisfaction helps explain the mixed results noted for previous studies. The series analyzed by those inclining towards a declining trend tend to fall in the early, declining, segment of the U (Brockmann et al 2009, Kahneman and Krueger 2006). Those finding a pattern of constancy straddle the 2000-2005 trough (Burkholder 2005, Crabtree and Wu 2011, Knight and Gunatilaka 2011, Easterlin and Sawangfa 2010). An uptrend finding, that happiness and income go together, results from a starting survey value falling in the 2000-2005 trough (PEW Research Center 2011).

The U-shape pattern of life satisfaction from 1990 to 2010 largely mirrors an inverted U in the urban unemployment rate (Figure 2). In 1990 the unemployment rate was quite low. It rose markedly in the 1990s, peaked in the 2000-2005 period, and then declined somewhat, though remaining above its initially low level. The inverse of the unemployment pattern is apparent in China’s rate of growth of GDP in the same two decades, a U-shape, bottoming out in the early 2000s (Liu 2011, p. 38).

The unemployment pattern in Figure 2 is shaped by the three unemployment series available that come closest to estimating unemployment according to international standards (for a valuable assessment of China’s unemployment data, including the officially registered unemployed, see Knight and Xue, 2005). These three series are based, respectively, on data chiefly from population censuses (1982, 1990, 1995, 2000); China Household Income Project (CHIPS) labor force surveys

(1988, 1995, 2002, and 2007 as reported in Ding and Gustafson 2011); and annual OECD estimates, 1998 to 2008 (OECD 2010b).

The inverse swings in life satisfaction and the unemployment rate are consistent with the repeated findings in the happiness literature that unemployment reduces life satisfaction (Blanchflower and Oswald 2004, Clark et al 2001, Kassenboehmer and Haisken-DeNew 2009, Winkelmann and Winkelmann 1998). Moreover, the evidence is that life satisfaction is reduced, not only for those who become unemployed, but for employed persons as well, presumably due to the anxiety created by a rising unemployment rate (DiTella et al 2001). The sensitivity to economic conditions of the population in China is evident in their responses to the following question asked in the PEW surveys: “Now thinking about our economic situation, how would you describe the current economic situation in China – is it very good, somewhat good, somewhat bad, or very bad?” In 2002 when the unemployment rate was at or near its highest point, almost half (48 percent) of the respondents said, “somewhat” or “very bad.” In 2007, when employment conditions had substantially improved, the corresponding percentage was down to 14 percent, and in 2010, 7 percent. Life satisfaction in these years as reported in the PEW surveys rose from 5.27 in 2002 to 5.82 in 2007 and 5.85 in 2010.

The movement of China’s unemployment rate is partly a reflection of the world economy. As noted, there was a significant slowdown in world economic growth at the start of the millennium, and countries substantially dependent on exports, such as China, felt the impact of declining foreign demand (World Bank 2002, 2003).

More importantly, however, the movement in China's unemployment rate is a result of government policy, and symptomatic of the deterioration in the social safety net that had prevailed under socialism. China's urban labor market prior to reform has been characterized as an "iron rice bowl" and "mini welfare state" (Knight and Song 2005, p.17). Workers in state-owned-enterprises (SOEs), the firms that accounted for the bulk of urban employment, had permanent jobs and an extensive employer-provided social safety net – housing, medical services, pensions, and jobs for children (ibid., p. 16). From an economic point of view, this system was highly inefficient economically and lacked incentives, but it ensured that urban workers had income security, and was highly egalitarian. In 1994, in the face of continuing inefficiency and unprofitability of SOEs, the government initiated a restructuring program that shortly evolved into what has been called "a draconian policy of labor shedding" (ibid., p. 23). The resulting rise in unemployment, though cushioned somewhat by an urban layoff program that provided some temporary safety net benefits (*xiagang*), was aggravated by a rising rural to urban movement as policies restricting internal migration were gradually relaxed.

As described in a World Bank Report: "By all measures, SOE restructuring had a profound effect on the functioning of the labor market and the welfare of millions of urban workers. Most urban centers experienced a sharp rise in unemployment and a large reduction in labor force participation as many older and discouraged workers left the workforce" (World Bank, 2007, p. 19). However, beginning around 2004, the rate at which SOEs were downsized diminished sharply. Between 1995 and 2003, reduced employment in SOE's far exceeded increased

employment elsewhere in the urban sector; thereafter the situation was reversed (OECD 2010b, ch.6, p.159; Gustafsson and Ding, 2011, pp. 483-484).

China's labor market developments are similar in several respects to those of the European transition countries. The first, already noted, is the emergence of substantial unemployment. The second is a decline in the employment rate, the proportion of employed persons in the working age population (Easterlin 2010, ch4; World Bank 2007). In China, as in the European countries, the decline in the employment rate involved a substantial drop in the labor force participation rate of women and older workers (Gustafsson and Ding 2011). Finally, in both Europe and China, the social safety net was largely abandoned with the transition to free market conditions.

Unlike Europe, however, average real wages in China rose markedly in the course of the transition, along with the very high rate of GDP growth (Knight and Song 2005). The fact that life satisfaction in China failed to increase along with income and output and is similar in its U-shape to that of the European transition countries is evidence of the fundamental importance of employment and the social safety net in determining the course of life satisfaction.

Socio-economic differentials – In terms of life satisfaction, China has moved from one of the most egalitarian countries to one of the least. The beneficiaries of the transition have been the higher income and better educated segments of the population whose life satisfaction has increased. The lower segments of the socio-economic distribution have experienced a substantial decline in life satisfaction.

In 1990 among those in the highest third of the income distribution, the proportion reporting high levels of life satisfaction (values of 7 to 10, on a 1 to 10 scale) was 68 percent; among those in the lowest third, it was almost the same, 65 percent. By 2007, the percentage in the 7-10 range had risen slightly for the upper income groups, to 71 percent; for the lower income group it had plummeted to 42 percent (Figure 3 top panel). A similar widening of the socio-economic differential appears in a comparison by level of education not presented here.

The focus here is on the longer term change in the SES differential; hence the comparison in Figure 3 is between the initial and terminal observations, 1990 and 2007. The 1995 observation fits the longer term trend toward a widening differential, but in 2001 there is a break in trend. At the trough in the life satisfaction U, the SES differential in life satisfaction narrows substantially, due chiefly to a sharp decline in life satisfaction among the upper third of the income distribution.

It is well established that China's transition has been marked by a sharp increase in inequality of income (Knight and Song 2000, 2005, UNU-WIDER 2008). Several factors have contributed to this – the growing urban-rural disparity in income, increased income differences within both urban and rural areas, and the greater incidence of unemployment on the lowest income group in urban areas. Knight and Song (2005, p. 23) point out that, "In adopting its reform policies, ...[China's] leadership espoused output objectives above all else. Where there was a conflict between efficiency objectives and equality objectives, egalitarianism was

played down.” The trend in SES differences in life satisfaction and income is consistent with this observation.

One indication that the growth in the inequality of life satisfaction is closely linked to that in income inequality is the response to the WVS question: “How satisfied are you with the financial situation of your household?” The pattern of responses to this question in 1990 and 2007 by the three income groups replicate closely that for life satisfaction – a clustering in 1990 and a marked divergence by 2007 (Figure 3, left panel). As in the case of life satisfaction, the trend is upward for the highest income group, and noticeably downward for the lowest. The 2007 disparity between the upper and lower segments of the income distribution is even greater for financial satisfaction than for life satisfaction.

The growing disparity in life satisfaction reflects also the dissolution of the social safety net that, among other things, provided universal health care. Evidence of this is the responses to the WVS question: “How would you describe your health these days? Would you say it is very good, good, fair, poor, or very poor?” In 1990, the proportion in each of the three income segments responding “very good” or “good” is clustered around 56 percent, and the difference between the top and bottom thirds is only 4 percentage points (Figure 3, right panel). By 2007, the differential had widened to 28 percentage points, with the upper third improving and the lower third worsening. It seems plausible that these disparate trends reflect the adverse impact on the lower income population of the increased cost of health care resulting from the marketization of health care services.



China's trend in life satisfaction differences by socio-economic status is typical of transition countries (Easterlin 2010, pp 95-99), and parallels closely the trend in Russia (Figure 4). In 1990 in China the difference between the upper and lower thirds of the income distribution in those reporting high life satisfaction (7 or more) was 3 percentage points; in Russia, the difference was 5 points. By the end of the period covered in Figure 4, the difference for China had risen to 29 percentage points; for Russia, to 25 percentage points. Over the period both China and Russia shift from well below the average for all countries surveyed to above the average. The larger increase in the SES differential for China than Russia may be because China tended to follow the policies of European transition countries other than those formerly part of the Soviet Union, policies that leaned toward employment rather than wage adjustments in the labor market (Boeri and Terrell 2002).

### **Summary and Discussion**

Despite an unprecedented rate of economic growth China's life satisfaction in the last two decades has largely followed the trajectory of the central and eastern European transition countries – a decline followed by a recovery. The magnitude of China's decline, however, has been slightly less than in the European countries and the average level of life satisfaction over the two decades, somewhat higher.

Considering the period as a whole, there is little change and possibly a decline in China's mean life satisfaction. In this respect, China's pattern is similar to those European countries for which observations are available for pre- or early-

transition levels of life satisfaction (Easterlin 2010, pp. 104-107). There is little evidence of a marked increase in life satisfaction in China such as might have been expected due to the enormous improvement in levels of per capita consumption.

In its transition China has shifted from one of the most egalitarian countries in the distribution of life satisfaction to one of the least. Life satisfaction has declined markedly among the lowest income and least educated segments of the population, while rising somewhat among the upper socio-economic stratum. The trend in China's socio-economic differential in life satisfaction is quite similar to that of Russia during its transition.

The data on subjective well-being underlying these conclusions are from six surveys conducted by five different survey organizations. The data are less than perfect, but the series form a consistent pattern. The similarity of the Chinese experience to that of the European transition countries lends credence to the results. China's pattern is also similar to that of other high-export countries subject to the vicissitudes of the world economy. It is also pertinent to note that China's nil trend is reminiscent of the record for Japan since the late 1950s (Easterlin and Sawangfa 2008, pp 184, 210; Easterlin 2010, pp 50-51, 74).

The factors shaping China's life satisfaction patterns are essentially the same as in the European transition countries – the emergence and rise of substantial unemployment, dissolution of the social safety net, and growing income inequality. The fact that China's life satisfaction failed to increase despite its differing output experience – a rapid increase versus the collapse and recovery of output in the

European countries – is testimony to the central importance of employment and the social safety net in determining life satisfaction.

A common assertion in the happiness literature based on point-of-time comparisons of nations, is that at low levels of GDP per capita, economic growth raises life satisfaction but beyond some point this effect diminishes (Diener et al 1993; Frey and Stutzer 2002, Inglehart 2002, Veenhoven 1991). Indeed, some analysts find that the positive effect of rising GDP per capita holds for rich as well as poor countries (Deaton 2008, Stevenson and Wolfers 2008). It would be hard to find a better time series test of this expected positive relation between life satisfaction and GDP per capita than China, where material living levels have demonstrably soared in the last two decades from initially low levels. Yet the various surveys by different organizations assembled here fail to reveal the marked improvement in life satisfaction that one would expect, and the only survey reporting the expected growth in life satisfaction has a base year, 2002, situated in the period of the life satisfaction trough, when virtually half of the survey's respondents characterized the economic situation as "somewhat" or "very bad."

One may reasonably ask how it is possible for life satisfaction not to improve in the face of such a marked advance from very low initial living levels. In answer, it is pertinent to note the growing evidence for China of the importance of relative income comparisons and rising material aspirations that tend to negate the effect of rising income (Knight and Gunatilaka 2011 , Brockmann et al 2009, Oshio et al 2009, Appleton and Song 2008, Smyth et al 2010, Tao and Chiu 2008). These findings are consistent with the emphasis common in the happiness literature that the growth in

aspirations induced by rising income undercuts the increase in life satisfaction due to rising income itself (Clark et al 2008, Easterlin 2001, 2003, Layard 2005).

The lack of a marked uptrend in overall life satisfaction may also reflect an adverse impact on life satisfaction of changes in life domains where social comparison is less important. As an example, consider East Germany, for which reports on satisfaction with a number of specific domains of life, as well as overall life satisfaction, are available. Between 1990 and 2004 as the economy transitioned from socialism to capitalism, East Germans' satisfaction with their material living conditions, including the environment, increased markedly (Easterlin 2010, p. 94). But job satisfaction and satisfaction with health and child care decreased. The net balance was a mild decline in life satisfaction despite the improvement in material living conditions. It is possible that China's experience has been similar to that of East Germany. Unfortunately there are no similar domain satisfaction data to test this.

It would be a mistake to conclude from the life satisfaction experience of China, and the transition countries more generally, that there should be a return to socialism and the gross inefficiencies of central planning. But there is an important policy lesson suggested by this experience. Jobs, and job and income security, together with a social safety net, are of critical importance to life satisfaction. Governmental action to this end is necessary. If the benefits of economic growth are left purely to individual decisions, growth is unlikely to raise life satisfaction significantly. In the last few years China has begun serious efforts to repair its social safety net (OECD 2010a, Barnett and Chalk 2010, Vodopivec and Tong 2008). These

efforts are an encouraging portent for the future of China's life satisfaction, and particularly for the least advantaged segments of the population.

Appendix A  
Survey Questions and Response Options

**World Values Survey**

Life satisfaction: All things considered, how satisfied are you with your life as a whole these days? Please use this card to help with your answer.

1 'Dissatisfied' 2 3 4 5 6 7 8 9 10 'Satisfied'

**Gallup 1**

Life satisfaction: Overall, how satisfied or dissatisfied are you with the way things are going in your life today? Would you say you are: 4 = Very satisfied; 3 = Somewhat satisfied; 2 = Somewhat dissatisfied; 1 = Very dissatisfied?

**Asiabarometer**

All things considered, would you say that you are happy these days?

- 1) Very happy
- 2) Quite happy
- 3) Neither happy nor unhappy
- 4) Not too happy
- 5) Very unhappy

Recoded with 5=Very happy. In 2003, "pretty happy" replaced "quite happy."

**Gallup 2**

Ladder of life: Please imagine a ladder with steps numbered from 0 at the bottom to 10 at the top. Suppose we say that the top of the ladder represents the best possible life for you, and the bottom of the ladder represents the worst possible life for you. On which step of the ladder would you say you personally stand at this time?

**Horizon**

(1997, 1998, 2001)

(in Chinese) In general, are you satisfied with your current life? Very satisfied, fairly satisfied, fairly dissatisfied, or very dissatisfied? (single answer)

Coded from 4 down to 1.

(2000, 2002-2010)

(in Chinese) In general, are you satisfied with your current life? Very satisfied, fairly satisfied, average, fairly dissatisfied, or very dissatisfied? (single answer)

Coded from 5 down to 1.

**PEW**

Here is a ladder representing the “ladder of life”. Let’s suppose the top of the ladder represents the best possible life for you; and the bottom, the worst possible life for you. On which step of the ladder do you feel you personally stand at the present time?

Response options: 0-10

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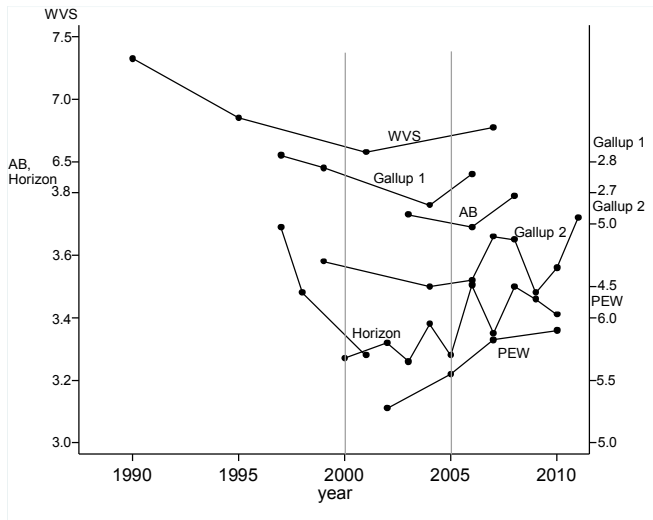
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**Figures**

Figure 1. Mean Life Satisfaction, Six Series, 1990-2010 (Table S1)



The integer response options of the series are, respectively: WVS, 1-10; Gallup 1, 1-4; AB, 1-5; Gallup 2, 0-10 except 1999, 2004, 1-10; Horizon, 1-5, except 1997, 1998, 2001, 1-4; PEW, 0-10. Series with response options of 1-4 or 1-5 are plotted to twice the scale of series with 1-10 and 0-10 response options. For survey questions, see Appendix A.

Figure 2. Urban Unemployment Rate, 3 Series, 1988-2008 (percent of labor force)

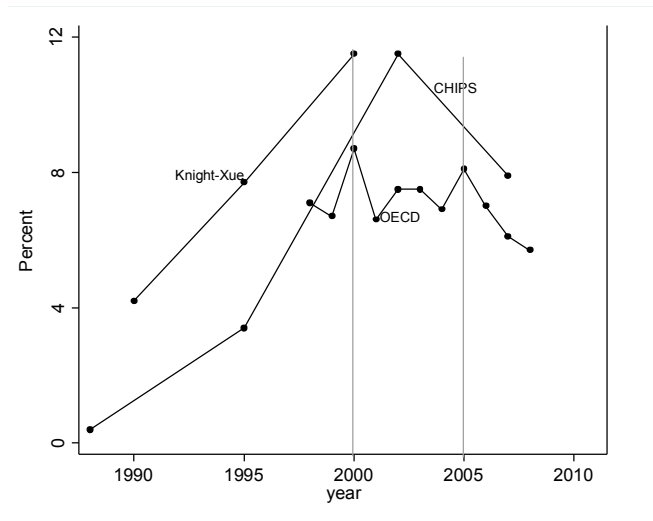


Figure 3. Life Satisfaction, Financial Satisfaction, and Self-Reported Health of Specified Income Group, 1990 and 2007 (percent responding 7-10 on a 1-10 scale)

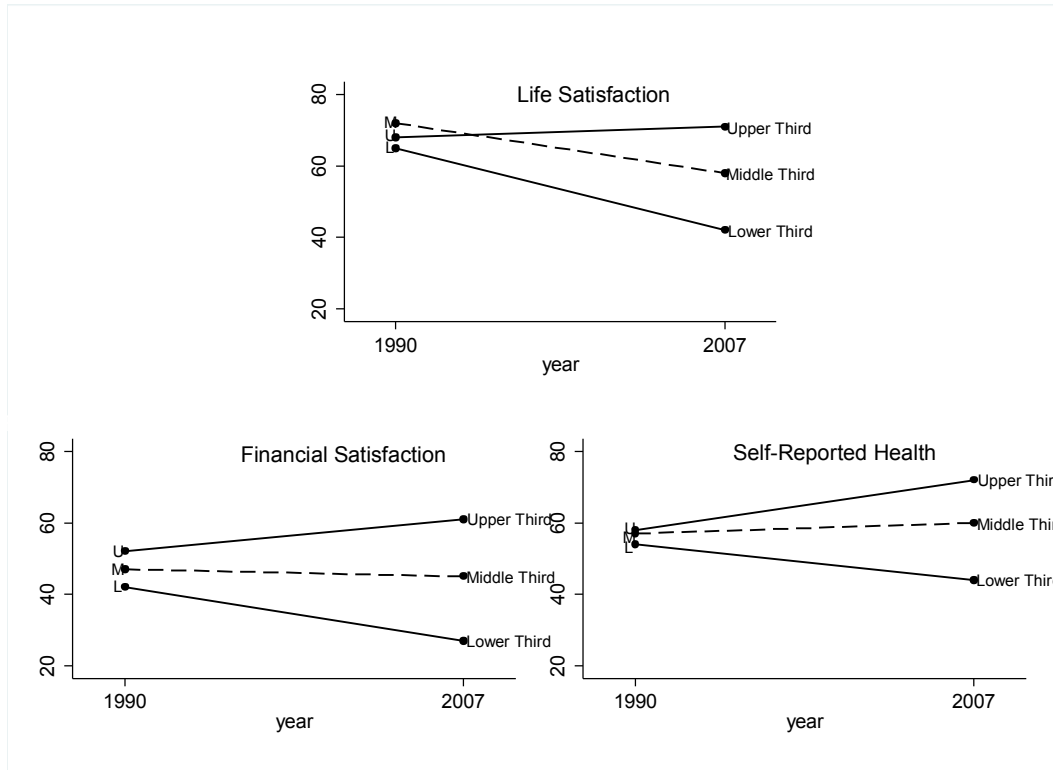
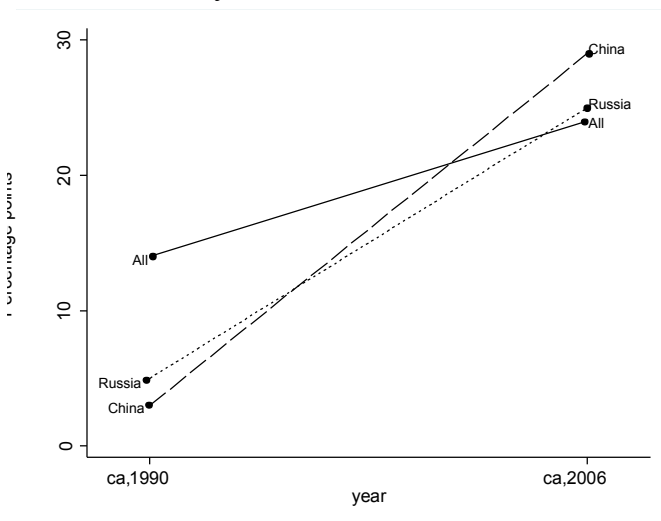


Figure 4. Difference in Life Satisfaction between Upper and Lower Income Groups, WVS, Wave 2 (ca. 1990) and Wave 5 (ca. 2006), China, Russia and Mean of All Countries Surveyed



### Supporting Information

Table S1. Mean Life Satisfaction, Six Series, 1990-2010

<b>Life Satisfaction, Total Population<sup>a</sup>, China</b>						
	WVS	Gallup		Asia barometer	Horizon Research	PEW
scale	1-10	1-4	0-10	1-5	1-5	
year						
1990	7.29					
1995	6.83					
1997		2.82			3.69 <sup>c</sup>	
1998					3.48 <sup>c</sup>	
1999		2.78	4.7 <sup>b</sup>			
2000					3.27	
2001	6.53				3.28 <sup>c</sup>	
2002					3.33	5.27
2003				3.73	3.26	
2004		2.67	4.5 <sup>b</sup>		3.38	
2005					3.28	5.54
2006		2.76	4.56	3.69	3.52	
2007	6.76		4.86		3.35	5.82
2008			4.85	3.79	3.51	
2009			4.45		3.47	
2010			4.65		3.41	5.85
2011			5.04			
a. Horizon series is for "cities".						
b. 1-10 scale						
c. 1-4 scale						

Table S2. Urban Unemployment Rate, 3 Series, 1988-2008 (percent of labor force)

<b>year</b>	<b>Knight and Xue</b>	<b>CHIPS</b>	<b>OECD</b>
1982	4.2		
1988		0.4	
1990	4.2		
1995	7.7	3.4	
1998			7.1
1999			6.7
2000	11.5		8.7
2001			6.6
2002		11.5	7.5
2003			7.5
2004			6.9
2005			8.1
2006			7.0
2007		7.9	6.1
2008			5.6

Table S3. Life Satisfaction, Financial Satisfaction, and Self-Reported Health of Specified Income Group, 1990 and 2007 (percent responding 7-10 on a 1-10 scale)

Income group	Life Satisfaction		Financial Satisfaction		Self-Reported Health	
	1990	2007	1990	2007	1990	2007
Upper third	68	71	52	61	58	72
Middle third	72	58	47	45	57	60
Lower third	65	42	42	27	54	44
All	68	59	46	47	56	61

Table S4. Difference in Life Satisfaction between Upper and Lower Income Groups, WVS, Wave 2 (ca. 1990) and Wave 5 (ca. 2006), China, Russia and Mean of All Countries Surveyed

<b>Country</b>	<b>ca.1990</b>	<b>ca.2006</b>
China	3	29
Russia	5	25
All	14	24