

Yang, Jinyang

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# Is There An Income-Happiness Puzzle in China? A National Survey, 2003-2021

Jinyang Yang \*

*Huazhong University of Science and Technology  
and GLO*

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## Abstract

This study investigates the income-happiness puzzle in China by examining the trends in happiness and economic growth over the past two decades. It is the first long-term study in China to utilize a consistent national representative survey in the new century. Using data from the Chinese General Social Survey (CGSS) waves 2003-2021, the study reveals a substantial increase in average happiness alongside steady income growth. Income growth contributes to approximately 40% of rural residents' happiness improvement and 25% of that of urban residents during this period. I find the effect of income is positive and robust when examined using both regional aggregate data and individual data. Furthermore, the study finds that the effect of relative income, measured by local average income, does not have a significant impact on individual happiness. The research also highlights the persistent urban-rural happiness gap and explores the distinct happiness-age curves observed between urban and rural residents.

*Keywords:* Subjective Well-Being, Economic Growth, Easterlin Paradox, Happiness-Age Curve

*JEL Codes:* H0, I30, O10, J10

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\*Jinyang Yang: School of Economics, Huazhong University of Science and Technology. Global Labor Organization (GLO) Fellow. Address: 1037 Luoyu Rd., Wuhan, Hubei Province, China 430074. Email: yang\_jinyang@hust.edu.cn

# 1 Introduction

Does money buy happiness? This question has been the subject of numerous studies aiming to examine the income-happiness gradient. However, despite extensive research, a consensus on the answer remains elusive. Using long-term country-level aggregate time series data, researchers find no evidence that income correlates with happiness—the so-called income-happiness puzzle, or Easterlin Paradox (Easterlin, 1974). Surprisingly, these studies reveal that not only has happiness stagnated in developed countries over the past decades, but developing countries’ happiness has failed to improve despite significant economic development (Easterlin, 1974, 1995, 2013; Clark, Frijters and Shields, 2008). Conversely, using extensive data of individuals within and across countries and over time, studies demonstrate that both richer individuals and richer countries tend to be happier, and countries that experienced higher income growth became happier (Stevenson and Wolfers, 2008; Deaton, 2008; Kahneman and Deaton, 2010; Deaton and Stone, 2013). Critics argue that studies finding positive income effects rely either on cross-sectional data or short-term economic variations, usually within a five-year span, which cannot be extrapolated to the long term (Easterlin et al., 2010; Easterlin, 2013). It is of paramount importance to explore the implications of long-term economic growth, such as that seen in China, on the income-happiness puzzle, which is also the purpose of this study.

In awareness of its significance, pioneer studies explore China’s long-term happiness change using multiple sources, including the World Value Survey (WVS), Gallup World Poll, Asiabarometer, Pew Research Center (Kahneman and Krueger, 2006; Stevenson and Wolfers, 2008; Easterlin et al., 2012; Easterlin, 2013). These studies have found no evidence of China’s happiness growth from the 1990s to the early 2000s. However, these sources are fragmented, and a comprehensive view of the trend is challenging to obtain. The WVS stands out as having the longest time span, cov-

ering 1990 to 2007. It pictures a generally declining but U-shape happiness change over time, with the lowest point in the early 2000s. However, a major concern is that these sources tend to oversample urban residents and educated strata, which may not represent the whole population (Stevenson and Wolfers, 2008).

More national representative surveys became available since the 2000s. Studies using nationally representative surveys suggest that China’s happiness increased during the late 2000s and mid 2010s (Asadullah, Xiao and Yeoh, 2018; Clark, Yi and Huang, 2019). But they focus on short-term trends, such as the Chinese General Social Survey (CGSS) 2005-2010 (Asadullah, Xiao and Yeoh, 2018) and the China Household Finance Survey (CHFS) 2013-2017 (Clark, Yi and Huang, 2019).

This study fills the gap of the literature by examining China’s economic growth and happiness over the past two decades. It is the first long-term study in China using a consistent national representative survey. I compiled the CGSS surveys from 2003 to 2021, which is, to my knowledge, the longest time span of micro surveys in China in the new century. The study bridges the short-term analysis in the 2000s and 2010s and complements those in the 1990s. The primary contribution regards examining the income-happiness puzzle in China’s context. I find that the Chinese average happiness increased substantially in the past two decades, along with a steady growth in income. The average life satisfaction, on a 1-5 scale, of urban residents increased by 0.72 points between 2003 and 2021, and the average of rural residents increased by 0.53 points from 2005 to 2021. The income of both groups increased by more than six-fold during this period. Taking advantage of China’s regional growth disparity, I find each doubling of regional average income increases average happiness by 0.10. With this magnitude of effect, income growth contributes to approximately 40% of rural residents’ happiness improvement and 25% of that of urban residents during this period. Secondly, I don’t find evidence that local average income negatively

affects individual happiness. The coefficient on regional average income is 0.02 and statistically insignificant in the regression of happiness on individual determinants. The effect is relatively nil compared with that of absolute income. The majority of existing studies find local average income negatively impacts individual happiness (Luttmer, 2005; Knight and Gunatilaka, 2010a, 2011). Close to Deaton and Stone (2013) and Yang and You (2023), this study doesn't find such dominating force of local average income.

Other contributions of this study may be of particular interest in the context of China and other developing countries. First, rural residents are unconditionally unhappier than their urban counterparts, and this gap does not converge over time. This contrasts with Knight and Gunatilaka (2010b), who found that rural residents are unconditionally happier despite having lower income. It also compares with one recent short-term study that indicates urban-rural gap minors over time Clark, Yi and Huang (2019). Second, I find that urban residents have a typical U-shaped happiness-age curve, as documented by many other studies (Stone et al., 2010; Blanchflower, 2021). However, the happiness curve of rural residents does not follow the typical U-shape. The oldest rural residents (age over 70) are much unhappier than their urban counterparts, and their happiness declines with age. Following the methodology of Deaton (2018), I estimate the marginal effect of income on utility—measured by happiness—of individuals based on their age group, gender, and urban/rural residence. I find males, individuals in middle age and oldest age, have the largest marginal utility from income.

The rest of the article is organized as follows. Section 2 introduces the data source of this study and how I measure happiness. It also plots the long-term trend of China's happiness and income growth during the sample period. Section 3 discusses the regional disparities in income growth and how I take advantage of it to examine

the income effect on happiness. In section 4, I explore the determinants of individual happiness using all individual observations. Section 5 draws the happiness-age curves. In section 6, I conclude this article.

## 2 Long-term Economic Growth and Happiness

### 2.1 Data

The study combines all waves of a nationally representative survey, the China General Social Survey (CGSS), which has conducted repeated cross-sectional surveys every one or two years since 2003. It's one of the earliest national comprehensive surveys on individuals regarding their personal and household backgrounds, socio-economic status, well-beings, and social attitudes. Early waves from 2003 to 2006 covered 28 out of 31 provincial-level administrative regions. Starting from 2010, CGSS has covered all provincial districts. In total, 12 waves of survey data were collected spanning from 2002 to 2021, and each wave consists of around 10,000 individuals.

A few points are noteworthy. Firstly, wave 2003 only surveyed urban residents, and rural residents have been covered since 2005. Secondly, the CGSS sampling frame was designed to represent both urban and rural residents, aiming to capture the striking gap between urban and rural areas in terms of culture, institutions, and socio-economic development. Thirdly, wave 2008 was a tentative survey that did not include questions on subjective well-being, and as such, it was excluded from my sample.

I primarily focus on a single question related to subjective well-being that has been consistently asked across all waves in my sample. Therefore, in this article, the terms *subjective well-being* and *happiness* are used interchangeably. I justify this focus based on its closer alignment with evaluative well-being, specifically life satisfaction,

rather than a hedonic measure of daily happiness, as discussed in Deaton and Stone (2013). In 2003, the question asked was: “Overall, how do you feel about the life you’re living?” In 2010, the question changed to: “Overall, do you think your life is happy?” Both questions had five response options: 1 - very unhappy, 2 - unhappy, 3 - so-so, 4 - happy, and 5 - very happy. Although there was a slight framing change between the two questions, I consider them equivalent for the purposes of my analysis.

I want to highlight the potential loss of information during the translation process from Chinese to English. The word *happiness* in English can be translated into two synonymous terms in Chinese, *KuaiLe* and *XingFu*, with the latter carrying a more serious connotation in written Chinese. The former corresponds to some emotional feelings of happiness mostly used in spoken Chinese. The options in the included CGSS surveys correspond to *XingFu*, not *KuaiLe*. Considering the cultural context, it is evident that the question and response options prompt respondents to seriously contemplate their life circumstances. The options in the excluded CGSS wave 2008 correspond to *KuaiLe*, instead.

Income is measured by total individual income for the past year prior to survey, including wages, bonuses, subsidies, dividends, operating net income, bank interest, gifts, etc. I extract the individual and household information and reconcile them to ensure consistency across waves. This includes variables such as individual hukou type, age, gender, ethnic group, party membership, educational levels, marital status, employment status, and household size. In total, my sample consists of 110,492 individuals, and those with complete information amount to 85,733.

## 2.2 Economic Growth and Happiness

In Figure 1, I plot the income growth and happiness of urban and rural residents separately, considering their different starting years. Sample weights are applied

to each wave. The primary finding reveals a significant and consistent increase in happiness for both urban and rural residents over the past nearly twenty years. Urban residents' average happiness rises from 3.28 in 2003 to 4.00 in 2021, representing a 0.72-point increase. Similarly, rural residents experience a comparable improvement, with average happiness increasing from 3.38 in 2005 to 3.91 in 2021. During the same period, income increases steadily for both groups. Urban residents' average income increases from RMB 10,743 to RMB 66,644, representing a six-fold expansion. In comparison, rural residents' average income grows even faster, rising from RMB 4,273 to RMB 34,453 in 2021, which corresponds to an increase of over 700%. These findings sharply contrast with Easterlin et al. (2012), who suggest China's average happiness remained stagnant or even declined from the 1990s to the early 2000s. The long-term trend of happiness change aligns with previous studies conducted during the periods 2005-2010 (Asadullah, Xiao and Yeoh, 2018) and 2013-2017 (Clark, Yi and Huang, 2019) in China.

However, happiness does not exhibit a constant progression over time, despite the nearly continuous growth in average income during the same period (refer to Figure 1b). Notably, a lesser-explored short-term change occurred from 2011 to 2013, characterized by a deviation from the overall trend and a subsequent abrupt decline in happiness among both urban and rural residents. The reasons for this deviation can be multifaceted. One well-documented factor is air pollution. Historical data from the Air Quality Life Index (AQLI) website indicate that air pollution in China reached alarming levels during 2011-2013, gradually improving after China initiated the "war against pollution" in 2014. During this period, life expectancy loss relative to the WHO guideline was estimated to be approximately 4.5 years.<sup>1</sup> Studies that focus on the same period have also found that air pollution reduces individual hedonic

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<sup>1</sup>Source: Air Quality Life Index (AQLI) website. <https://aqli.epic.uchicago.edu/country-spotlight/china/>

happiness and increases the prevalence of depressive symptoms (Zhang, Zhang and Chen, 2017).

On average, urban residents in China exhibit higher incomes and happiness scores compared to their rural counterparts. This pattern diverges from the findings of Knight and Gunatilaka (2010b), who reported that rural residents were unconditionally happier, despite having lower incomes, based on hedonic measures in a national survey conducted in 2002. The current study aligns with more recent research conducted in the late 2000s and mid-2010s (Asadullah, Xiao and Yeoh, 2018; Clark, Yi and Huang, 2019). However, the urban-rural happiness gap does not appear to be narrowing in the recent CGSS surveys, in contrast to the trend documented by Clark, Yi and Huang (2019). Similarly, the income gap did not converge until the last wave in 2021.

### **3 Regional Disparities and Income-Happiness Gradient**

Not all regions have a uniformed income growth during the past two decades. China's economic growth is accompanied by a prominent regional disparity, not only between urban and rural, but between provinces as well. Do regions with faster income growth experience a larger increase in happiness? In this section, I examine the association between long-term economic growth and subjective well-being at regional level within China. I classify the regions by province and urban/rural residence. For each region, I calculate their differences of log incomes and happiness, between the last and first sample period. Following Stevenson and Wolfers (2008) and Easterlin et al. (2010), I plot the changes in regional income versus happiness by rural and urban residence, separately, in Figure 2. To concentrate on long-term change, regions with a length of

fewer than 10 years between the last and first sample periods are dropped. Average growths of income across regions are 617% ( $= e^{1.97} - 1$ ) and 426% ( $= e^{1.66} - 1$ ) for rural and urban areas separately. However, average increases in happiness across regions are lower for rural areas (0.50) and higher for urban areas (0.70), which implies the income-happiness gradient is different between rural and urban areas. A simple linear regression of happiness change on log income change shows that doubling of regional income increases average happiness by 0.19 points in rural areas, and 0.42 in urban areas. Both estimates are statistically significant at 5% level (See Figures 2a and 2b). While this method is transparent in showing long-term change, it could be sensitive to the period and samples we select for study.

Regions also exhibit short-term heterogeneity in income growth. To avoid selection on sample period, I include all survey waves in the analysis and aggregate regional income and happiness using sample weights. I consider the aggregated sample as a panel dataset of regions from 2003 to 2021. The data for all regions (the entire sample) are visualized in Figure A1, where happiness scores are plotted against log income for each region. The relationships between income and happiness are evident across regions. To confirm this relationship, Table 1 presents the results of linear regression using the regional aggregate sample. In Column 1, without any controls, the ordinary least squares (OLS) estimate of the income effect on happiness is approximately 0.2 and statistically significant at the 1% level. This effect could be driven by a common national trend. In Column 2, I remove the time trend and control for year fixed effects. I choose this result as my baseline because it utilizes idiosyncratic shocks to examine the income-happiness gradient at the aggregate level, as desired by previous studies. The income-happiness gradient shrinks to around 0.1 but remains statistically significant at the 1% level. It is also much smaller compared to the long-difference results presented in Figure 2.

In Columns 3-4 of Table 1, I play with additional robustness checks. In Column 3, I further exclude regional unobserved factors, such as geographical location and initial endowment, which may be correlated with both income and happiness. The coefficient slightly decreases to 0.09. In the final column, I include controls for regional demographics. These demographics encompass the aggregate ratios of residents in each age group, gender, and ethnic group. The coefficient drops again to 0.08. Although the common trend and regional factors account for most of the income effect identified, the effect of income remains consistently positive and statistically significant at the 1% level.

Is the income-happiness gradient of 0.1 economically significant? If we transform the life satisfaction score from a 1-5 scale to a 0-10 scale, my finding is equivalent to an increase of around 0.2 for each doubling of income. This estimate is considerably smaller than previous studies that utilized cross-country and within-country data (Stevenson and Wolfers, 2008; Deaton and Stone, 2013), which found effects predominantly above 0.4. Nevertheless, considering China's economic growth during the sample period, the contribution of income to happiness is non-trivial. In rural areas, an eight-fold increase in average income raises average happiness by more than 0.21 ( $= (\log(34453) - \log(4273)) * 0.1$ ) on the 1-5 scale, accounting for approximately 40% of the total happiness improvement. Similarly, a six-fold increase in average income in urban areas results in an average happiness increase of 0.18 ( $= (\log(66644) - \log(10743)) * 0.1$ ), contributing to 25% of the total happiness change.

## 4 Absolute versus Relative Income

In this section, I utilize the individual sample to re-examine the determinants of individual happiness, with a special focus on absolute and relative incomes, which I believe have been underexplored in the context of a long time span. The sample

includes all survey waves. Similar to the previous section, I define the local average income as the average income of each urban/rural region within provinces. The determinants considered in this analysis are limited by survey consistency throughout the entire period. Therefore, I can only include basic demographic controls, comprising hukou type, age groups, gender, ethnic group, party membership, educational levels, marital status, employment status, and household size. The results are presented in Table 2 with four model specifications, where controls are added incrementally. In the case of the individual sample, I argue for choosing Column 4, which includes full controls and incorporates province and year fixed effects, as the baseline. This choice is motivated by my focus on capturing the individual income effect that is not attributable to macro factors.

I find no evidence of a negative correlation between relative income and individual happiness. Among the four model specifications, three of them report a positive coefficient for local average income, while one (Column 3) reports a negative coefficient. However, with full controls in the last column, the effect of local average income is positive but statistically insignificant. This primary finding regarding the role of relative income contrasts with existing studies conducted in various contexts, including China, which have reported a substantial negative effect of local income level (Knight and Gunatilaka, 2010a, 2011). My result aligns with the findings of Deaton and Stone (2013), who did not observe a dominating negative effect of average income on subjective well-being when aggregated at various levels. The likely explanation may be related to the compound effect of neighborhood income through channels of both social comparison and life-cycle income (Yang and You, 2023).

The effect of individual income remains robust across all specifications, with a point estimate of approximately 0.1 and statistical significance at the 1% level. This effect is equivalent to completing nine years of education compared to individuals

who have never attended school. The estimated impact of individual income aligns with the findings obtained using regional average data in the previous section. Furthermore, the coefficient on individual income in this study is comparable to that reported in the literature. For instance, using the same 5-ladder scale of happiness, Knight and Gunatilaka (2011) found coefficients of 0.07 for rural residents and 0.18 for urban residents when examining the relationship between log income and happiness. Therefore, the results of this study can be seen as a compromise between the two estimates.

Apart from income, marital status emerges as the most influential factor in determining happiness. Being married alone increases one’s happiness by 0.21, which is equivalent to an income increase of approximately RMB 56,716 ( $= 0.209/0.108 \times 29,308$ ). Conversely, divorce has an even greater negative impact on happiness compared to marriage. Education follows closely as the second most significant contributor to individual happiness. College graduates enjoy a happiness premium of 0.22, equivalent to a raise in annual income of RMB 60,786 ( $= 0.224/0.108 \times 29,308$ ) when compared to individuals who have never attended school. Additionally, factors such as being female, belonging to an ethnic minority, being a party member, being employed, and residing in larger households are associated with higher levels of happiness.

## 5 Happiness and Age

The coefficients on age groups in Table 2 reveal a typical U-shaped life-cycle pattern, consistent with previous studies. However, the unconditional subjective well-being by age is not well-illustrated within the context of China. This is relevant because, as suggested by Deaton (2018), when targeting policies towards individuals with low well-being, it is important to focus on those who have the lowest subjective well-being without necessarily understanding the reasons behind it. Figure 3 presents the

unconditional happiness-age curves separately for gender and residence. To account for significant structural changes in the economy and society, the sample is restricted to the most recent survey waves after the year 2013. Among the four subsamples, urban females exhibit the highest levels of happiness, and they consistently rank as the happiest across most age groups. Urban males rank the second happiest. Both urban females and urban males tend to exhibit the standard U-shaped happiness curve across different age groups. In contrast, rural males and females report the lowest levels of happiness, and their happiness-age curves do not conform to the U-shape, primarily due to a turning point among those aged over 70. While all residents experience a dip in happiness around age 50 and subsequently increase, rural residents—both males and females—deviate from this trend at age 70, with the happiness of those aged over 70 tending to decline. The existing literature hasn’t documented such patterns for the rural residents.

As Benthamite utilitarians, we would prioritize income transfers to individuals who derive the highest marginal utility, as measured by subjective well-being. To examine this further, I plot the marginal effect of income on happiness for each age group, categorized by gender and urban/rural residence, following the approach outlined in Deaton (2018). In addition, I include all the controls used in Column 4 of Table 2. Interestingly, I do not observe the inverse U-shape of the marginal utility-age curve reported by Deaton (2018). Instead, I find that the marginal utility-age curves exhibit an S-shape, irrespective of gender and urban/rural residence (refer to Figure 3b). The largest marginal effect of income is observed for individuals aged 40-49, and it gradually decreases with age after 50. Notably, the marginal effect of income shows an increasing trend after the age of 70 for all residents, regardless of gender and urban/rural status. Considering policies that target individuals with the highest marginal utility, it is desirable to transfer income from young adults and

younger older adults to middle-aged adults and the oldest old, as this can lead to improvements in social well-being. Combining the findings from both figures, it is obvious that middle-aged residents, particularly males, and the oldest rural residents are most in need of income transfers.

## 6 Conclusion

This study has delved into the income-happiness puzzle within the context of China, using a national representative data spanning two decades. The findings shed light on the intricate relationship between income and happiness in the Chinese population. Contrary to the Easterlin Paradox, which suggests that income does not correlate with happiness, this study reveals a significant increase in average happiness over the studied period, accompanied by steady income growth. Moreover, the analysis demonstrates that regional income growth positively impacts average happiness, while the influence of local average income cannot dominate over absolute income on individual happiness.

The research also highlights important disparities between urban and rural residents. Despite economic development, rural residents consistently exhibit lower levels of happiness compared to their urban counterparts, and the gap does not converge over time. Additionally, while urban residents follow a typical U-shaped happiness-age curve, rural residents do not conform to this pattern, with the oldest rural residents experiencing declining happiness as they age.

This study's contributions extend beyond the income-happiness puzzle, as it provides a comprehensive understanding of the dynamics of happiness in China. By utilizing a consistent national representative survey, this research bridges the gap between short-term analyses conducted in the 2000s and 2010s and complements studies conducted in the 1990s.

A few questions require further exploration. One of these questions pertains to the short-term decline in happiness from 2011 to 2013, which has received limited attention in the existing literature. Although the literature has offered some implications, there has been no direct examination of this anomaly. The second question relates to the declining happiness with age among the oldest rural residents. This phenomenon warrants further investigation in the context of China and other developing countries to validate its occurrence.

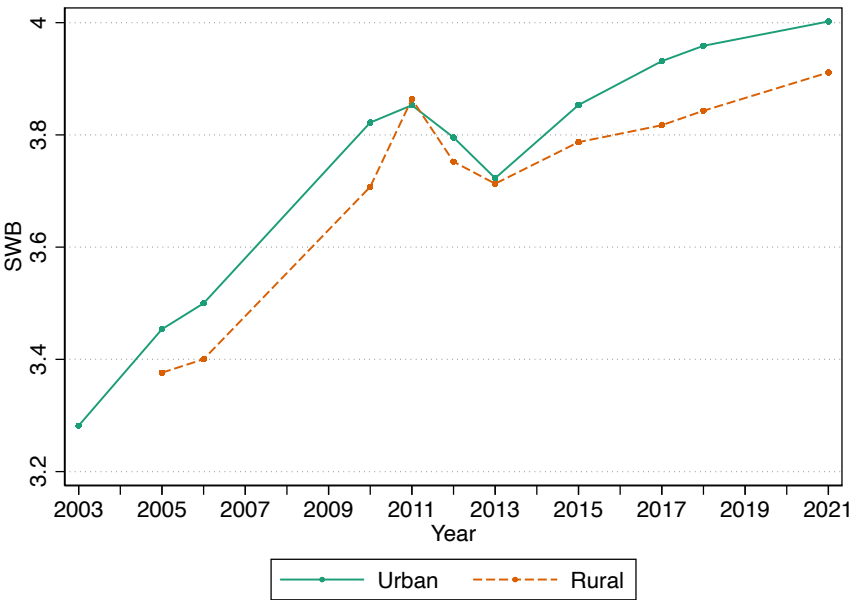
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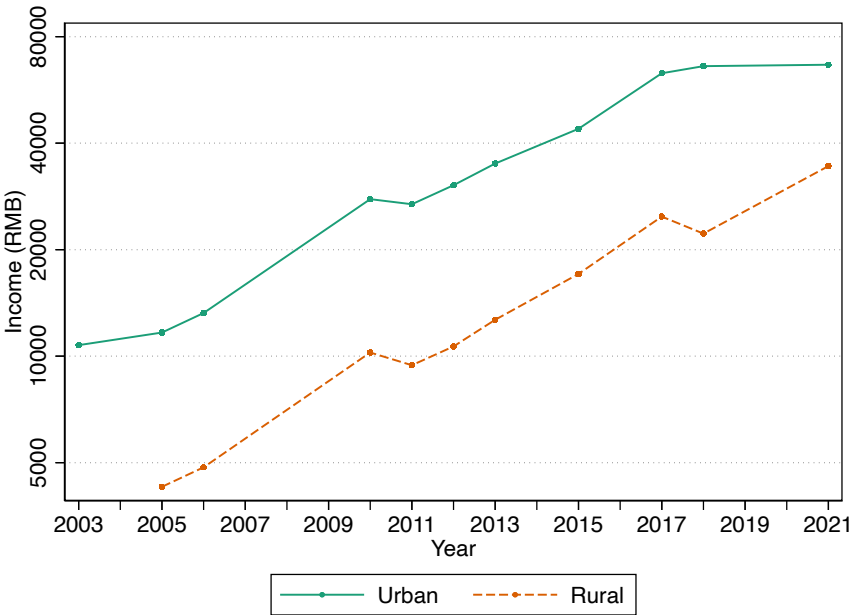
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# Figures and Tables

Figure 1: Income and Happiness Growth in China, 2003-2021



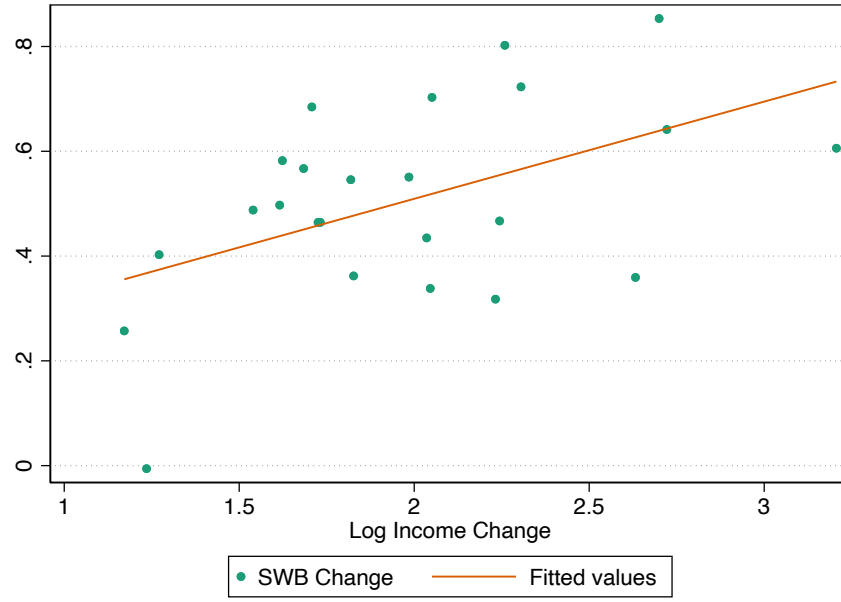
(a) Happiness Growth



(b) Income Growth

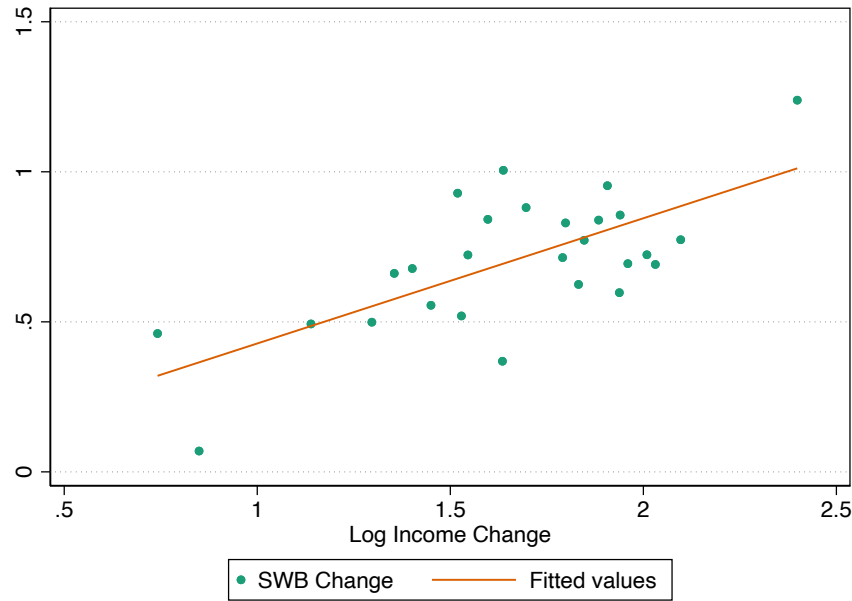
*Note:* The data comes from CGSS 2003-2021. Sample weights are used in each wave to calculate the average. Rural and urban residents are defined by their residential areas.

Figure 2: Income Growth Disparities and Happiness, 2003-2021



Fitted model:  $y = 0.138 + 0.185x$  ( $se = 0.069$ )

(a) Urban

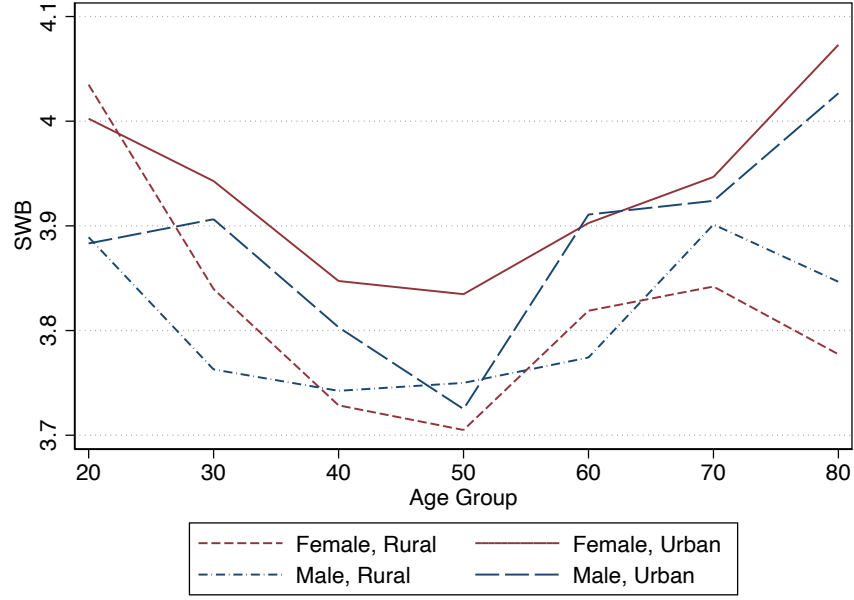


Fitted model:  $y = 0.011 + 0.417x$  ( $se = 0.089$ )

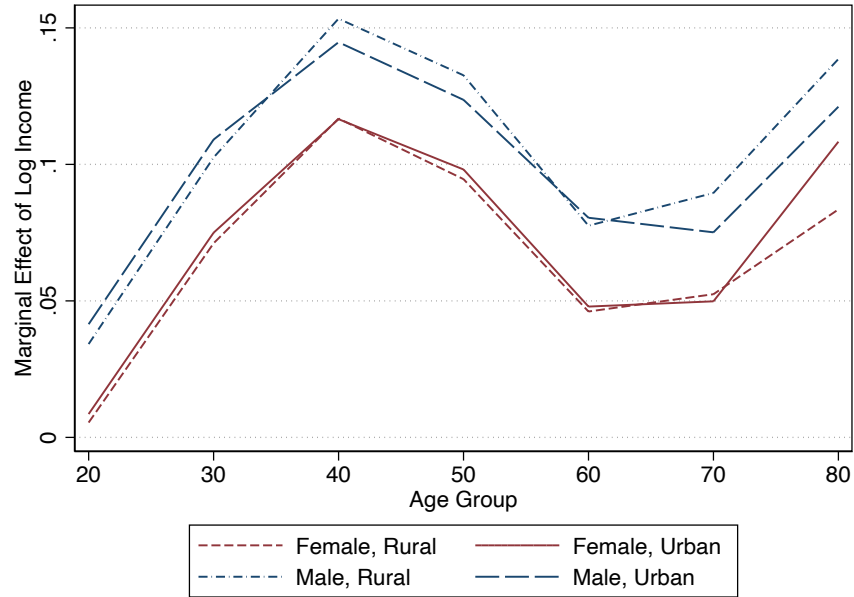
(b) Rural

*Note:* The data comes from CGSS 2003-2021. Sample weights are used in each wave to calculate the average. Rural and urban residents are defined by their residential areas. The  $x$  axis represents the log difference of the provincial average income between last and first sample period. The  $y$  axis denotes the difference of the average happiness during the same period.

Figure 3: Happiness-Age Curves



(a) Happiness by Age



(b) Marginal Happiness from Income by Age

*Note:* The data comes from CGSS 2013-2021. Sample weights in each wave are used in tabulation. Rural and urban residents are defined by their residential areas. Ages are grouped by a bin width of 10, starting from 20 as “below 30”, to 80 as “over 80”. Panel (a) plots the group average happiness without controls. Panel (b) plots the marginal effect of income for each group with full controls including hukou, ethnic group, party membership, educational levels, marital status, employment status, household size, province and year fixed effects.

Table 1: Income and Happiness at Regional Aggregate Level

	(1)	(2)	(3)	(4)
<i>Log Local Average Income</i>	0.209*** (0.012)	0.096*** (0.015)	0.088*** (0.025)	0.075*** (0.026)
<i>Demographics</i>				Y
<i>Province FE</i>			Y	Y
<i>Urban FE</i>			Y	Y
<i>Year FE</i>		Y	Y	Y
<i>Observations</i>	539	539	539	539
<i>R-squared</i>	0.347	0.561	0.755	0.771

The data comes from CGSS 2003-2021. Sample weights in each wave are used in tabulation. Incomes and happiness are aggregated at regional level grouped by province and urban/rural status. Demographic controls includes the average rates in age groups, gender, and ethnic group. Standard errors are in parentheses.

\*\*\* $p < 0.01$ ; \*\* $p < 0.05$ ; \* $p < 0.1$

Table 2: Determinants of Individual Happiness

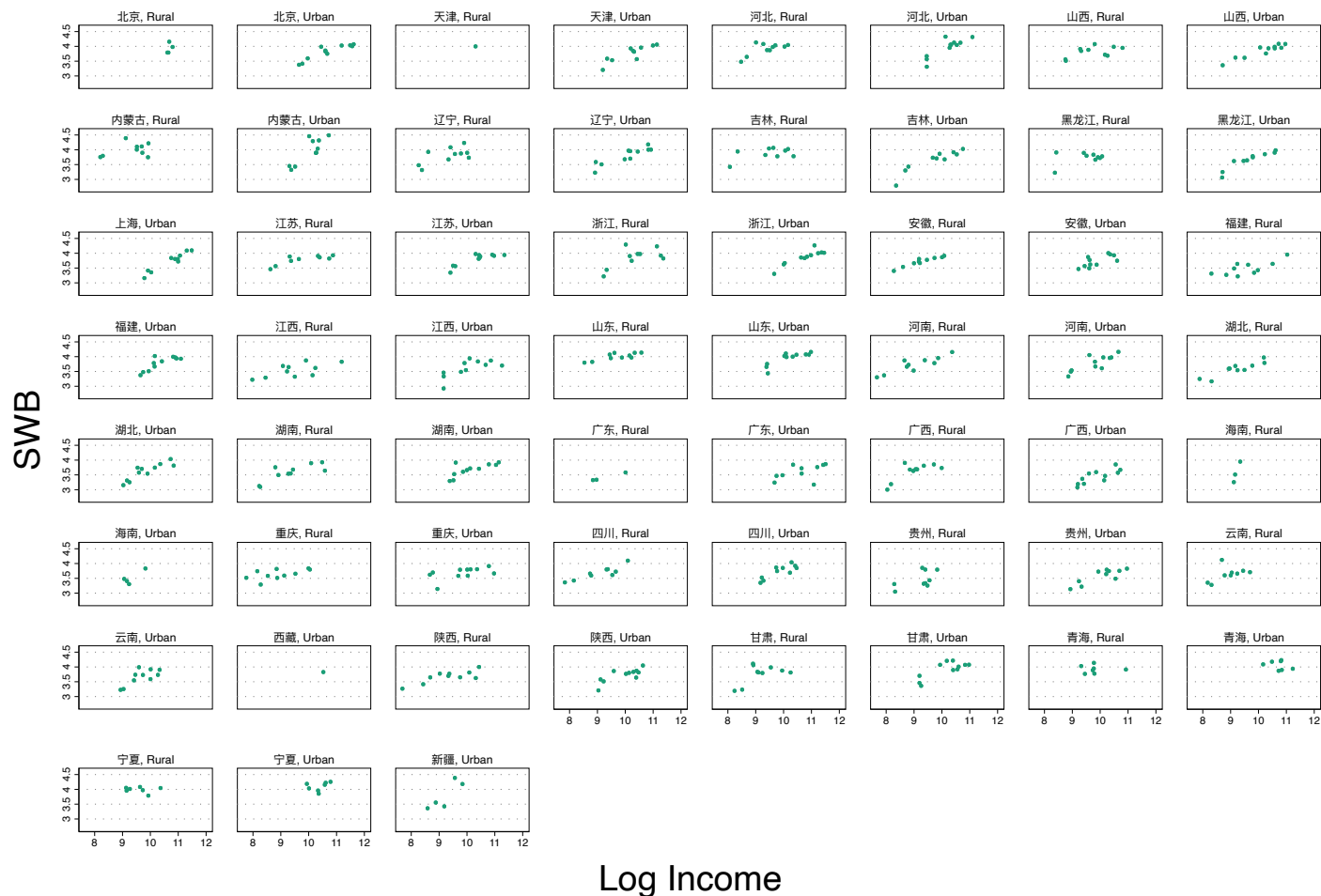
	(1)	(2)	(3)	(4)
<i>Log Income</i>	0.101*** (0.003)	0.116*** (0.004)	0.107*** (0.004)	0.108*** (0.004)
<i>Log Local Average Income</i>	0.087*** (0.005)	0.079*** (0.005)	-0.045*** (0.007)	0.020 (0.016)
<i>Rural Hukou</i>		0.141*** (0.008)	0.029*** (0.009)	0.010 (0.009)
<i>Age Groups (Under 30 as Baseline)</i>				
<i>30-39</i>		-0.142*** (0.014)	-0.148*** (0.014)	-0.144*** (0.014)
<i>40-49</i>		-0.148*** (0.014)	-0.174*** (0.014)	-0.167*** (0.014)
<i>50-59</i>		-0.098*** (0.015)	-0.133*** (0.015)	-0.127*** (0.015)
<i>60-69</i>		0.068*** (0.016)	0.024 (0.016)	0.029* (0.016)
<i>70-79</i>		0.214*** (0.021)	0.154*** (0.020)	0.160*** (0.020)
<i>80 and above</i>		0.304*** (0.030)	0.247*** (0.030)	0.250*** (0.029)
<i>Male</i>		-0.104*** (0.007)	-0.109*** (0.007)	-0.110*** (0.007)
<i>Ethnic Han</i>		-0.084*** (0.013)	-0.042*** (0.013)	-0.089*** (0.015)
<i>Party</i>		0.109*** (0.010)	0.122*** (0.010)	0.120*** (0.010)
<i>Educational Levels (No School as Baseline)</i>				
<i>Elementary</i>		0.043*** (0.014)	0.052*** (0.014)	0.059*** (0.014)
<i>Secondary</i>		0.101*** (0.014)	0.120*** (0.014)	0.119*** (0.014)
<i>High School</i>		0.116*** (0.016)	0.148*** (0.015)	0.156*** (0.015)
<i>ZhuanKe</i>		0.180*** (0.018)	0.205*** (0.018)	0.209*** (0.018)
<i>College</i>		0.204*** (0.020)	0.216*** (0.019)	0.224*** (0.019)
<i>Postgraduate</i>		0.106*** (0.038)	0.125*** (0.038)	0.129*** (0.037)
<i>Marital Status (Unmarried as Baseline)</i>				
<i>Married</i>		0.220*** (0.015)	0.225*** (0.015)	0.209*** (0.015)
<i>Divorced</i>		-0.231*** (0.032)	-0.243*** (0.031)	-0.249*** (0.031)
<i>Widowed</i>		0.056** (0.023)	0.049** (0.023)	0.035 (0.022)
<i>Employed</i>		0.032*** (0.009)	0.028*** (0.009)	0.025*** (0.009)
<i>Household Size</i>		0.014*** (0.003)	0.021*** (0.003)	0.023*** (0.003)
<i>Province and Urban FE</i>				Y
<i>Year FE</i>			Y	Y
<i>Observations</i>	86,279	85,733	85,733	85,733
<i>R-squared</i>	0.056	0.091	0.110	0.127

The data comes from CGSS 2013-2021. Sample weights in each wave are used in regressions. "Local Average Income" is defined as average income at regional level grouped by province and urban/rural status. Standard errors are in parentheses.

\*\*\* $p < 0.01$ ; \*\* $p < 0.05$ ; \* $p < 0.1$

# Appendix Figures and Tables

Figure A1: Income Growth and Happiness by Province and Urban/Rural Status, 2003-2021



Graphs by province and urban

*Note:* The data comes from CGSS 2003-2021. Sample weights in each wave are used in tabulation. Incomes and happiness are aggregated at regional level grouped by province and urban/rural status.