Declining Subjective Well-Being in Boom: the Case of China

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Abstract

According the available statistics, happiness in China plummeted between 1990 and 2000 despite massive improvement in material living standards. This finding contradicts the notion that income growth at low living standards leads to gains, not losses, in happiness. In this dissertation, I explain this puzzle by drawing on a specific version of relative deprivation theory, the concept of "frustrated achievers." The major finding is that income inequality in China became increasingly skewed towards the upper income strata. This resulted in the financial position of most Chinese actually worsening, with reference to the average income in the country. Consequently, financial dissatisfaction rose and became an increasingly important factor in depressing happiness. Other negative feelings emerging with rapid transitions, such as anomie and disaffection, show a less depressive effect on Chinese happiness.

I have started out on my search with a study of the literature about happiness study and an analysis of the state of the art in that field of research. Chapter 2 of the dissertation portrays the history of subjective well-being research and several alternatives approaches that have proven helpful for explaining the difference in SWB at individual and national levels, mainly focusing on economics, psychology, and sociology. Economists usually focus on the impact of economic factors such as income and GDP per capita, while psychologists pay main attention to the crucial roles of personality, aspiration and self-control in determining the level of SWB. Sociologists believe that people might mentally benefit from social trust and social mobility but suffer from social anomie.

Chapter 3 outlines the economic and social transition that took place in China in the 1990s. Firstly, I come up with an introduction of Chinese economic transition since 1978. Secondly, I present the social consequences of Chinese economic transition such as economic polarization, increasing crime rate, high divorce rate, moral degradation and loss of distrust. Based on the analysis on China’s reality, I
translate China’s puzzle into research questions for the empirical part of this study: (1) did relative deprivation, social and economic polarization, anomie, and distrust spread during transition? (2) Did these negatively influence people’s SWB during transition? (3) Which of these factors is the most influential for SWB during transition? I, thus, propose several hypotheses to link the theories to China’s actuality between 1990 and 2000.

Chapter 4 describes the data and the analysis that I have used. I use the Chinese samples of 1990 and 2000 from World Values Survey. Due to sampling problems, I created four separated sub-samples in terms of regions and years and then present the definitions of variables used in the study and descriptive statistics of the samples. With regard to analysis methods, I applied two kinds of mathematic models: OLS regression models and structural equation modeling. Firstly, two series of OLS regression models are chosen. The first series of regression models are tested with four separated sub-samples in each year and region. The second series test the interaction effects of those predictors with the variable of years.

The regressions demonstrate that the relationships between socio-economic factors and SWB are far more complex. “Frustrated achievers” were found prevailing in the contemporary China, whereas the other two theories were only partly supported. The increased inequality hurt the feelings of middle income group as well as the poor, whereas being better off did not necessarily make the rich more satisfied. Subjective social class, which reflects perceived social position and is also combined with social comparison, shows similar effects on SWB over time. Social polarization benefits those on the top of the pyramid but reduces the level of SWB of other social classes, including both lower and middle lower classes. The results show that the middle income groups and middle class are depressed due to the up-ward comparisons.

Besides, the regression results partly support the other two potential explanatory theories. The transition to market economy raises the losers’ feelings of powerlessness and reduces the winners’. It suggests that powerlessness is largely determined by
one’s own situation and capability rather than social comparison. Furthermore, anomic value is just moderately related to subjective well-being in the urban sub-sample of 1990, while no significant associations were found in the other sub-samples. Thus, the increased anomic value can not attribute to the puzzle.

Social distrust, including interpersonal distrust and political distrust, displayed mixed effects on SWB. Interpersonal distrust moderately reduced farmers’ happiness while the effect is weak in cities. Meanwhile, political distrust is salient in cities but not in the countryside. Other conclusions from the life satisfaction regression are that good health and stable marriage are characteristics that are associated with a happy life and should be promoted by policymakers in order to increase SWB.

Apart from OLS regression model, I also use structural equation modeling (SEM) in this analysis due to the limitations of regression model and further theoretical concerns on political distrust and political satisfaction. The first SEM model is designed to test the effects of five independent variables such as political distrust, powerlessness, health, income, and social class on SWB for the urban sub-samples of 1990 and 2000. It reveals that household income and subjective social class become statistically more critical to subjective well-being in the market economy. Powerlessness and political distrust exert invariant impact on SWB in the transition. All these findings are consistent with the results from the OLS regression models.

Since the survey of 2000 includes more interesting indicators for political distrust and political satisfaction, I built an extended SEM model including more indicators concerning political distrust and political satisfaction in order to go deep into the impact of political factor as well as other factors on SWB in 2000.

The confirmatory factor analysis indicated that the second-order construct of political distrust and the constructs of political satisfaction fit the two regional sub-samples of 2000 well when the two groups were forced to have equivalent loadings on their own latent factors.
The extended structural equation model reveals the causal path from political distrust to life satisfaction via financial and political satisfactions. In particular, political distrust costs more political satisfaction in the countryside but less life satisfaction and financial satisfaction in cities. It provides detailed information on the differences in the relationship between political distrust and SWB across regions. It also suggests that SWB is a multi-dimensional concept and that the structure of overall life satisfaction and domain satisfactions differs across regions.

To conclude, I provide strong evidence that economic transition from a centrally planned economy to a free-market economy systematically and substantially influence the determinants of subjective well-being. Economic inequality and relative deprivation are largely responsible for why SWB has declined in the presence of economic growth. Closer examination reveals that changes in relative income and relative social position account for more fluctuation in SWB than do changes in absolute income. Meanwhile, powerlessness and political distrust alter SWB, although some of their effects are not consistent across regions and waves.
Chapter 1 Introduction

Over the past 30 years, China has experienced a dramatic social and economic transition profoundly impacting on Chinese quality of life. The successful economic transition from command economy to market economy has given China long-term economic growth since 1979 – the GDP per capita increased from 417 Yuan\(^1\) to 7078 Yuan between 1979 and 2000 (see Figure 1.1). China’s transition can be divided into two stages: the first stage from 1978 to 1993 and the second since 1994 (Qian 1999). From Figure 1.1, one can see that GDP per capita increased modestly at the first stage and then soared at the second.

\[\text{Figure 1.1 China’s growth of GDP per capita and income per capita between 1979 and 2000}\]


\(^1\) 1 US dollar = 1.47 Yuan in 1979, 4.78 in 1990 and 8.28 in 2000
No doubt that such economic achievement has fundamentally improved the live conditions of China’s more than 1 billion people (Burkholder 2005; Klein and Özmucur 2002). According to the report of Human Development Awards (UN Development Group 2007), China has successfully reduced the population of absolute poor in rural areas from 250 million in the late 1970s to 26 million. From Table 1.1, one can see that the Human Development Index (HDI)\(^2\) increased rapidly from 0.558 to 0.728 between 1980 and 2000 (UNDP 2005). Engel coefficient\(^3\) dropped from 67.7 to 49.1 between 1978 and 2000 in the countryside and from 57.5 to 39.2 in cities (The National Bureau of Statistics of China 2002).

The growth of Chinese income per capita in the 1990s is nothing short of astonishing – surely the most transformation ever witnessed by more than a fifth of mankind in 10 years. The farmers’ income is nearly doubled between 1990 and 2000. But the gap between urban and rural areas has deteriorated over such a brief period. The bulk of this dramatic income growth occurs among China’s urban dwellers that are nearly three times as affluent as their rural counterparts in 2000 (See Figure 1.1).

### Table 1.1 Human Development Index in China, India, Japan and USA between 1970 and 2000

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>0.525</td>
<td>0.558</td>
<td>0.594</td>
<td>0.627</td>
<td>0.683</td>
<td>0.728</td>
</tr>
<tr>
<td>India</td>
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<td>0.438</td>
<td>0.476</td>
<td>0.513</td>
<td>0.546</td>
<td>0.577</td>
</tr>
<tr>
<td>Japan</td>
<td>0.857</td>
<td>0.882</td>
<td>0.895</td>
<td>0.911</td>
<td>0.925</td>
<td>0.936</td>
</tr>
<tr>
<td>USA</td>
<td>0.867</td>
<td>0.887</td>
<td>0.901</td>
<td>0.916</td>
<td>0.929</td>
<td>0.938</td>
</tr>
</tbody>
</table>


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\(^2\) Published every year by the United Nations, the HDI is a score that amalgamates indicators like life expectancy, literacy, education, standard of living, and GDP per capita for countries worldwide.

\(^3\) Engel’s Coefficient refers to the proportion of expenditure on food to the total consumption. For details, see Ravallion and Bidani (1994).
If Chinese are far more affluent, do they also enjoy higher subjective well-being? Unfortunately, the answer is not positive. Richard Burkholder (2005), the international bureau chief at Gallup Poll Organization, reports that Chinese people tended to report less satisfied with their lives during the transition in spite of impressive increase in average household income, using data from four waves of nationwide surveys between 1994 and 2004. He also observes consistent average levels of life satisfaction between rural and urban areas despite the salient gaps in economic condition between the regions in the course of the economic transition.

Using data from the World Values Survey between 1990 and 2000, Yuan and Brockmann (2006) observed that Chinese life satisfaction experienced a sharp drop from an average of 7.57\(^4\) to 6.53, accompanied by a great improvement in GDP per capita (PPP) from 1858 US dollars up to 3370 US dollars (Groningen Growth and Development Centre and the Conference Board 2006).

Figure 1.2 illustrates the relationships of economic growth and life satisfaction for 38 countries of the World Values Survey during the period of 1990s. Most of the countries surround the regression line, except China. The outlying case suffered salient decline in life satisfaction in spite of the high speed of economic growth. The regression line is nearly horizontal when the case of China is included (the green line). It illustrates that either economic growth or economic depression does not alter the average level of life satisfaction at all. Nevertheless, the positive linear relationship turns out without considering the outlying case of China (the brown line). This relationship is consistent with the microeconomic argument: a greater number of needs are satisfied (due to an increase in consumption) and a higher standard of satisfaction is attended as income increases.

China’s declining SWB is also at odds with the famous “Easterlin paradox” and the “baseline theory”. In his watershed paper of 1974, Easterlin discovers that

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\(^4\) The mean of life satisfaction of 1990 is adjusted because of sampling errors. A weight of 6.11 is given to the rural cases in terms of the urbanization rate 35% in 1990.
Americans, on average, were not happier than 50 years ago, notwithstanding the greatly improved live conditions. He attributes the steady average happiness to the ideas of “norm adjustment” and “relative advantage” (Easterlin 1974: 111). In psychology, SWB is mainly dependent on personality and traits, which are quite invariable over time. Thus, people will ultimately return to their own “baselines” after the occurrence of good or bad events like promotion, disease or divorce. However, from this viewpoint, one would not be surprised to find China’s rapidly improving living conditions not to be reflected in a corresponding increase in happiness. But one would hardly expect declining happiness.

Figure 1.2 Economic growth and life satisfaction in 38 Countries (1990-2000)

Notes: Change in life satisfaction is the increase in life satisfaction from 1990 to 2000. Economic growth is the increase in GDP per capita (PPP) from 1990 to 2000 divided by GDP per capita in 1990. Sources: World values Survey of 1990 and 2000, Groningen Growth and Development Centre and the Conference Board, Total Economy Database, September 2006, [http://www.ggdc.net](http://www.ggdc.net)
How can this puzzle be resolved? Since the economic growth is not accompanied with higher subjective well-being, there must have been some kinds of negative feelings in the transitional society, depressing overall happiness. In this thesis, I argue that a combination of a rising feeling of relative deprivation, growing social anomie and declining social trust contributes to resolving the puzzle.

Firstly, economic inequality has markedly increased between rural and urban areas, among regions and between different social groups during this period, especially since the 1990s (Li 2002a; Nee and Matthews 1996). Gini coefficient was 32.0 in 1980, dropped to 25.7 in 1984, and then increased rapidly (WIID 2000). It reached 44.7 in 2001, ranking the 85th out of 120 economies in the World Bank 2004 report (World Bank 2004). Especially, the inequality between rural and urban areas deteriorated due to the unbalanced economic and social policies (Chen and Wang 2001; Zhou 2000). The average income of urban dwellers was 2.20 times more than that of rural dwellers in 1990 (1510.2/686.3), and the difference rose to 2.79 in 2000 (6280.0/2253.4) (The National Bureau of Statistics of China 2001).

The theory of "frustrated achievers" given by Graham and Pettinato (2002b), discovers the relationship between rising inequality and declining happiness. They uncover surprisingly low levels of happiness in transitional economies such as Peru and Russia, despite considerable material improvements for broad strata. They explain this finding by what they call “frustrated achievers.” Even if absolute income levels increase, a change in the income distribution might result that the relative position of most groups become more disadvantageous in relation to the population mean.

Secondly, social anomie spreads as the rigid planned economy is broken and new market economy is far from mature. Unlike the transitional path of the eastern European countries, China’s reformation is limited in the economic fields. The communist party still holds the governing power and the socialist regime survives in the transition to free-market economy. Thus, the dual system facilitates political corruption and economic crimes (Gong 1994). In addition, crime rates rose rapidly.
The grand larceny rates steadily increased at an average annual rate of 15% between 1992 and 1999, and the fraud rates, 9% (Cao 2007). With regard to the impact of social anomie on SWB, Durkheim (1997/1897) argues that anomic attitudes and behaviors occurring in booming economy would reduce happiness and increase suicide. Recent research has empirically support this argument (Genov 1998; Genov 2000; Glatzer and Bös 1998; Huschka and Mau 2006).

Thirdly, a declining tendency in social trust and social ties occurred. Wang (2002) maintain that interpersonal distrust and indifference, the parts of post-communist personality, are prevailing in contemporary China. Besides, political distrust is also rampant in that the slow reformation in political system fell far behind the aspirations of the public and rising political corruption undermined the reputation of political institutions. Such tendency in social trust could also undermine people’s SWB (Cheung and Leung 2004; Putnam 2000).

In this thesis, I focus on the second stage of China’s economic transition at which wealth accumulation and income growth were faster and SWB was dropping. In addition, China was relatively more open in the 1990s, which makes empirical studies possible. Moreover, China is divided into two regions with which the models are tested separately due to the salient gaps in social and economic conditions between rural and urban areas.

I start out on my research with an analysis of the state of the art in the field of subjective well-being research. Chapter 2 of the dissertation portrays the history of subjective well-being research and several alternatives approaches that have proven helpful for explaining the difference in SWB at individual and national levels, mainly focusing on economic, psychological and sociological approaches. Firstly, economists usually focus on the impact of economic factors such as income, economic growth and GDP per capita. The theory of “frustrated achievers” offers a probable way in explaining the China’s puzzle. Secondly, psychologists pay main attention to the crucial roles of personality, goals and self-agency in determining the level of SWB. In
sociology, demographic factors such as age, gender, education and marital status are not such strong predictors for SWB as personality is. But they are important mediators between psychological predictors and SWB. Besides, people might be frustrated by the downward social mobility and depressed with the spread of social anomie and social distrust. In the end, I sum up the effects of personal characteristics and environmental conditions on SWB and analyze what kind of theoretical approaches are likely to solve the puzzle.

Chapter 3 outlines the features of China’s economic and social transition and propose a set of hypotheses accordingly. Firstly, I come up with an introduction of Chinese economic transition since 1978. Next, I discuss the socioeconomic consequences caused by the reformation, such as economic polarization, increasing crime rate, high divorce rate, moral degradation and loss of distrust. In addition, I pay special attention to the regional inequality between rural and urban areas. Such inequality was formed in the command economy and has deteriorated during the transition. Thus, it is necessary to examine the rural and urban situations separately. The third task I take upon myself followed: to translate the Chinese puzzle into the research questions for the empirical part of this analysis. I, accordingly, propose several hypotheses to link the theories to China’s actuality in the period between 1990 and 2000.

Given research questions and hypotheses, an adequate design has to be chosen for the empirical study. The characters of research questions suggest a quantitative approach with data from large-scale surveys: the objectives for the study are not to explore the actual content of certain concepts, nor to obtain an inventory of the diverse aspects that people actually perceive as components of SWB, but rather to get information on actual levels and distribution of SWB among social groups in terms of the exogenous conditions and resources.

Chapter 4 describes the data and the analysis in the study. I use the data from World Values Survey, a large-scale international survey on values and political
attitudes. I choose the Chinese samples of 1990 and 2000 for this analysis in terms of available variables and cases. Due to sampling problems, the ratio of rural cases in the sample of 1990 is not enough to reflect the actual urbanization ratio in China (18.96%, The National Bureau of Statistics of China 2002). Thus, I created four separated sub-samples in terms of regions and years and then present the definitions of variables used in the study and descriptive statistics of the samples.

With regard to analysis methods, I applied two kinds of econometric models: OLS regression models and structural equation modeling. Firstly, two series of OLS regression models are chosen to test the relationships of independent variables with life satisfaction. The first series of regression models includes all relevant independent variables in each year and region in order to figure out which conditions are important for life satisfaction in transition. The second series test whether the effects of certain predictors on life satisfaction alter over time.

Although the regression models tell the salient effects of financial dissatisfaction, powerlessness, social class, income and distrust on life satisfaction, those models have some limitations. Firstly, the regression models can not test the mediating role of financial dissatisfaction. Next, the models can only deal with a sum of 5 indicators of political distrust. This may be problematic. Since political distrust is intangible and multi-dimension, the sum might misrepresent the concept. The third limitation is the restricted precondition that all independent variables should hardly depend on each other. In this analysis, the data seem not to meet the precondition very well. Finally, the data from surveys usually have measurement errors which can not be taken into account in regression model. Thus, I adopt structural equation modeling (SEM) in the study.

The first SEM model test the effects of a latent variable, namely political distrust, and four exogenous variables on SWB for the urban sub-samples of 1990 and 2000. Since the survey of 2000 includes more interesting indicators for political distrust and political satisfaction, I built an extended SEM model in order to go deep into the
impact of political factors as well as other factors on SWB in the sample of 2000.

Chapter 5 and Chapter 6 report on the results of the models. Chapter 5 contains the results concerning the two series of multivariable regression models on determinants of SWB. After the description of general changes in the changes in socio-economic factors and subjective well-being, I conduct OLS regression models for each sub-sample in terms of regions and waves. Next, interaction effects of waves with certain independent variables are included.

The results indicate that increased inequality hurt the feelings of middle income group as well as the poor, whereas being better off does not make the richest group more satisfied. Subjective social class shows similar effects on SWB over time. The social polarization does not benefit those on the top of the pyramid, but reduces the level of subjective well-being of other social classes, including both lower and middle lower classes. Besides, the results partly support the other two potential explanatory theories. Powerlessness has been invariantly influential in the period of the transition, whereas anomic value is just moderately affect subjective well-being in the urban sub-sample of 1990. Similarly, not all components of social distrust show strong effects on subjective well-being in the models. Interpersonal distrust moderately reduces farmers’ happiness while the effect is weak in cities. Meanwhile, political distrust is salient in cities but not in the countryside.

Chapter 6 focuses on fewer variables but more relationships among them. The findings from the first part of this chapter partly confirm the regression results obtained in Chapter 5. Household income and subjective social class contribute more to subjective well-being in the market economy, while powerlessness and political distrust exert invariant impact on SWB. In addition, financial satisfaction mediates most of effects of socioeconomic factors on life satisfaction. In the second part, the multi-group SEM is applied for the sample of 2000. The constructs of SWB, political distrust and political satisfaction are found invariant between rural and urban areas. Based on this finding, I identify that political satisfaction is a moderator between life
satisfaction and political distrust.

In the course of the dissertation, I apply OLS regression models and structural equation models. One may get confused with understanding those coefficients and figures and can not easily link the estimates to the theoretical framework. Therefore in Chapter 7, I retrace my steps and try to give a critical evaluation of the whole study and its findings from the general perspective sketched in the present chapter. And then I summarize my major insights and speculate whether the Chinese puzzle represents a general pattern of fast-growing emerging market economies and whether the notions and the models gained in this analysis can be applied to further international comparisons.
Chapter 2 Literature Review

2.1 How do we define subjective well-being?

The concept of subjective well-being (SWB) plays a prominent role in many disciplines. It appears not only in various subfields of philosophy like ethics and political philosophy but also in economics, psychology, sociology, public policy and elsewhere. The nature of SWB has not been defined in a uniform way yet. Its meaning varies across disciplines, ranging from general judgments of life satisfaction to momentary feeling of contentment.

Easterlin (2003), like many other economists, maintains that subjective well-being is similar to happiness, life satisfaction, and subjective quality of life. Diener (2000) insists that SWB is a broad term that encompasses the various ways people evaluate their lives, including life satisfaction (global judgments of one’s life), satisfaction with domains (e.g., work satisfaction), pleasant emotions (experiencing many pleasant emotions and moods), feelings of fulfillment and meaning, and low levels of unpleasant emotions (experiencing few unpleasant emotions and moods). Furthermore, Ryff and Keyes (1995) even believe that SWB has six separable components: self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life, and personal growth.

Among these components of SWB, happiness and satisfaction are the most important and received the most attention in the past decades. These aspects, and the empirical generalizations that have been defended by reference to them – sometimes referred to as the “science of happiness”\(^5\) – have attracted a great deal of attention in recent years. While these two concepts are highly conceptually and empirically

correlated with one another and sometimes are regarded interchangeable, they respectively reflects different aspects of SWB. It has been found that “happiness” reflects affection and moods, while more cognitive evaluations are related to “satisfaction” (Diener 1984; Diener 1994; Diener, Scollon and Lucas 2003; Diener et al. 1999).

2.1.1 Happiness

From the linguistic perspective, the term of happiness has multiple meanings in different occasions and different languages. For the reason of measuring the fuzzier and folk concept of happiness, most empirical studies limit the term within the affective part. Thus, happiness, according to psychology, reflects the positive part of affective evaluations on the ongoing events in people’s daily lives or the specific events (Bradburn 1969). These affective evaluations take the form of emotion and mode.

Bradburn (1969) conducts an empirical survey in USA in order to measure individual psychological well-being. In his terminology, happiness is considered as an affect-balance between the presence of positive feelings and the absence of negative feelings. He finds that positive affect (PA) and negative affect (NA) are independent. The study is widely considered as a landmark to the study of SWB because it suggests SWB is not uni-dimensional, but instead is at least two-dimensional. In other words, PA and NA are not simply polar ends of a single continuum, and thus need to be measured separately. “[W]ithin a given period of time, such as a week or two, one may experience many different emotions, both positive and negative, and that in general there is no tendency for the two types to be experienced in any particular relation to one another.” (Bradburn 1969: 225)
Over the years psychologists have devoted much effort to measuring individual experience of happiness, both in the clinic and in the experimental laboratory. For the measurement, the questions are open for everyone to define for himself. It can be assumed that the individuals rather than the researchers are the best judges of when they are happy or not.

Some systematic scales of assessment of happiness have been developed. One of the most famous scales is the Oxford Happiness Inventory (OHI) which consisted of 20 items concerning with the self-report feeling of some aspects of respondents’ lives (Argyle, Martin and Crossland 1989). Hills and Argyle (2002) developed the 29-item Oxford Happiness Questionnaire (OHQ) based on the OHI. They improved the Oxford Happiness Inventory by changing the response format from a 0–3 multiple choice scoring format to a more widely used Likert Scale (1=“strongly disagree” to 6=“strongly agree”) and adding additional nine items. These studies have typically involved small numbers of subjects, and it is difficult to project their findings directly to larger population.

The way used in most of happiness studies is to ask the individuals how happy they feel themselves to be. The question is usually as follows: “Taking all things together, how would you say things are these days – would you say you are very happy, pretty happy, not too happy, and not happy at all.” (e.g. Diener and Biswas-Diener 2002; Inglehart 2000b; Inglehart and Klingemann 2000) The answer reflects the respondent’s evaluations of his or her life. It would be also easy to imagine that a person usually holds high SWB if he or she is happy. However, only happiness does not appear to be sufficient for most people to evaluate their lives, because they are seeking some other outcomes that reflect their goals and values. Thus, I will turn to another important component of SWB – satisfaction, in the following session.
2.1.2 Satisfaction

Apart from happiness, satisfaction is taken as an indicator of the cognitive aspect of subjective well-being. In the 1970's, with the rapid development of the social indicator movement, SWB was widely discussed in the fields of social sciences. Two important books were published respectively by Andrews and Withey (1976) and Campbell and his colleagues (1976). After testing 68 different measures, Andrews and Withey (1976) chose the Delighted-Terrible Scale (D-T Scale)\(^6\) as the measurement of SWB, which includes satisfaction as well as happiness.

Campbell and his colleagues (1976) completely quitted the measure of happiness and applied only cognitive indicators – general satisfaction and domain satisfactions as the social indicators. They defined the satisfaction as follows: “Level of satisfaction can be precisely defined as the perceived discrepancy between aspiration and achievement, ranging from the perception of fulfillment to that of deprivation. Satisfaction implies a judgment or cognitive experience, while happiness suggests an experience of feeling or affect.” (Campbell, Converse and Rodgers 1976: 8)

Unlike happiness, satisfaction can be divided into life satisfaction and sub-domain satisfaction. Life satisfaction refers to “the degree to which a person positively evaluates the overall quality of his/her life as-a-whole” (Veenhoven 1996). Domain satisfaction reflects people’s judgment of the specific domains in their life such as income, marriage, and work.

Like happiness, satisfaction can be measured in various contexts: clinical interviews, psychological questionnaires and through large-scale surveys. Since the

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\(^6\) The D-T scale combines happiness and satisfaction. The respondents were asked with the question: “How do you feel your life as a whole?” The options for the question includes seven on-scale categories: “Delighted,” “Pleased,” “Mostly satisfied,” “Mixed-about equally satisfied and dissatisfied,” “Mostly dissatisfied,” “Unhappy,” and “Terrible.” (Andrews and Withey 1976: 8)
1970’s, some multiple-item scales have been introduced for measuring satisfaction. These are lists of questions on satisfaction with various aspects of life and with life-as-whole. The Global Estimate of Life Satisfaction (GELS), for example, includes 10 life domains such as material objects, money, security, and so on (Ramm and Czetli 2004). The sum of all domains refers to general satisfaction. But the main disadvantage of this approach is the meaning of the sum-score. It is hard to test the correlation between the general satisfaction and other factors because the sum-score is directly or indirectly derived from all other relevant factors.

To avoid the problem, some specific scales have been developed. Diener et al. (1985) introduce the “Satisfaction With Life Scale” (SWLS), which involves only 5 questions about satisfaction with life-as-a-whole, that differs in phrasing, but not in content. Similarly, some more specific scales are developed for the measurement of domain satisfaction. For instance, Palisi and Canning (1983) design a 4-item index for his marriage-satisfaction research.

In the context of a survey interview, life satisfaction is usually assessed with only one direct question for the respondents: “Taking all things together, how are you satisfied with your current life?” (Campbell, Converse and Rodgers 1976; Easterlin 1974; Kahneman and Krueger 2006) Campbell (1981: 23) argues that the “use of these measure is based on the assumption that all the countless experiences people go through from day to day add to ……global feeling of well-being, that these feelings remain relatively constant over extended periods, and that people can describe them with candor and accuracy.”

Besides, non-verbal behaviours such as frequent smiling or enthusiastic movements are also taken into account. However, estimates of one’s life satisfaction by his peers are often misleading. Suicide behaviour is probably the best indicator compared to other behaviour. Almost all people who attempt or commit suicide as dissatisfied with life. However, not all dissatisfied people resort to suicide and a man who does not attempt suicide is unnecessarily satisfied with his life (Veenhoven 1996).
Therefore, self-report life satisfaction is still the most popular measurement.

After years of research, we now know quite a lot about the processes of satisfaction judgments and the relationship between satisfaction and happiness. Conceptually, however, there is a more general distinction between them with respect to time. Happiness is a concrete condition at a given point in time so that it is in principle impossible to tap a person’s hedonic affect about life as a whole in a single question. Campbell, Converse, and Rodgers claim:

“[H]appiness has rather central connotations involving short-term moods of gaiety and elation that are quite different from the core meaning of satisfaction. Also, the opposition of happiness is sadness or depression, whereas the opposition of satisfaction includes a strong flavor of frustration”. (Campbell, Converse and Rodgers 1976: 8)

Actually, people sometimes judge their life satisfaction by using their affective state as one of the information sources. Schwarz and Strack (1999) point out, in their judgment model of SWB, that “if respondents are asked to report their happiness and satisfaction with their life as a whole, they are likely to base their judgment on their current affective.” Schwarz and Clore (1983) find that seemingly irrelevant factors such as the weather at the time of judgment can influence ratings of life satisfaction. This suggests that current mood can influence rating life satisfaction, even if that current mood is not indicative of one’s overall levels of affective state. But it does not mean that people’s life satisfaction judgments are short-live like happiness. On the contrary, the level of life satisfaction is substantially temporally steady (Magnus and Diener 1991). “Although the processes by which satisfaction judgments are made can often lead to what may be thought of as mistakes, in many cases people use relevant and stable information, resulting in stable and meaningful satisfaction judgment” (Diener, Oishi and Lucas 2003).

Besides, another advantage of life satisfaction as a measure of SWB is that it can
be divided into a series of separate domains of satisfaction such as financial satisfaction, marital satisfaction, and job satisfaction. Domain satisfaction reflects people’s judgment of the specific domains in their life. Campbell, Converse and Rodgers (1976) argue that happiness can not be practically applied to the domains of life and it would be difficult to compare its scores among these domains. Yet, certain domain satisfactions may contribute to the appreciation of life as a whole, but do not constitute it. Furthermore, they report that the stability of domain satisfactions was greater than the single items requesting the various global assessments of well-being, after comparing the correlations between initial interview and the small re-interview eight months later. It suggests that domain satisfaction is, at least, as important as global satisfaction.

By contrast, Diener (1984) comes up with the “top-down” model in which the effects could also go from subjective well-being to domain satisfactions. As a psychologist, Diener maintains that satisfaction might be determined more by personality characteristics than situational circumstances. Some people have a disposition to be satisfied while others do not, so that satisfaction with life in general is the more fundamental variable which spills over onto domain satisfactions. Another possibility is that there are personality traits which have more or less effects on both general satisfaction and domain satisfactions (Costa and McCrae 1980). In this line, the relationships between general satisfaction and domain satisfactions would be spurious and determined by personality traits.

Since Diener’s seminal article, many empirical studies have been done in order to test the different models. Lance, Mallard and Michalos (1995) provide mixed evidence for both top-down and bottom-up models. They find significant effects of general satisfaction on the domains of job satisfaction and satisfaction with social activities, and a bottom-up effect of marriage satisfaction on life satisfaction. Headey, Veenhoven and Wearing (1991) also find a top-down effect for job satisfaction and satisfaction with leisure activities, but a reciprocal relationship for satisfaction with
Møller and Saris (2001) examine the relationship between subjective well-being and domain satisfactions with the data from the South African Quality of Life Trends Study, collected in September 1995 by the research organization, MarkData, in a syndicated survey. They apply several models on how the domain satisfactions of finances, housing and social contacts are related to subjective well-being. The results support the bottom-up model in which domain satisfactions affect global satisfaction with life. Furthermore, they uncover that those domain satisfactions respectively mediate the effects of certain resources on global satisfaction.

2.1.3 Conclusion

Self-report measures of SWB are the most frequently used measures so far, although a number of studies have shown that even the simplest way – the single-item measures – can exhibit some degree of reliability and validity. Both happiness and satisfaction are necessary for a whole pattern of people’s evaluation of their lives. Nevertheless, for the analysis and evaluation of most problems, cognitive judgments seem to be more reliable than the precise temporal integration of momentary affection, although they are substantially correlated.

Therefore, the concept of interest for this analysis is satisfaction, including both global satisfaction and domain satisfaction, as opposed to hedonic affect. Firstly, I use life satisfaction as the single indicator of SWB in regression models, while financial satisfaction is an independent variable. Secondly, I consider SWB as a multi-dimension concept and introduce financial satisfaction as another indicator of SWB in the first structural equation model. Finally, I introduce political satisfaction, including democracy satisfaction, incumbent satisfaction and system satisfaction, as a
domain satisfaction mediating the effects of political factors on life satisfaction.

2.2 **Subjective well-being in economics: Does money matter?**

Economic resources are fundamental to human life throughout the world. People contribute a large fraction of their lives to collecting and spending these resources. The historic origins of the economic science and the economic discourse reveal that one of the important targets in ultimately economics is to improve people’s lives, and SWB has been widely accepted as the ultimate measuring rod of quality of life (e.g. Veenhoven 2002; Veenhoven 2007). Only recently broader approaches to measure utility have gained acceptance (e. g. Easterlin 1974; Easterlin 2001; Frey and Stutzer 2000). In this session, I review several economic arguments on the links between SWB and utility and then sketch three main dimensions of happiness economics that occurred in the past decades.

2.2.1. **Subjective well-being in traditional economics**

The utilitarians, such as Jeremy Bentham, insist that the nature of well-being is to maximize happiness and to minimize pains. That is, the only thing worth striving for, and which one should strive for, is happiness, and the only thing worth avoiding, and which one should avoid, is pain. Following the hedonistic tradition, Jeremy Bentham (1789) came up with utilitarianism, and formulated the “principle” of utility”, which approves or condemns behavior according to whether it seems to increase or decrease the happiness of those concerned or, in other words, to further or to hinder happiness. Further, he believes the happiness of the individual and the happiness of society as a
whole are in reality interconnected, that the happiness of all is for every man a means
to his own happiness and by inferring that the society is a collective entity and that the
aim of right behavior is the personal happiness of this collective entity.

This view of utility and well-being is challenged by Pareto (1909), who argue that
demand theory could be derived based only on information about the ranking of
different alternatives. This leads to the ordinal utility concept, where utility simply
refers to a preference ordering of alternatives. Samuelson (1938)formulates the
general behavioristic foundations of standard theory, in which it is axiomatically taken
that utility is no more than preference. Hausman (1993: 180) summarizes the
dynamics of preference in the following way: Agents are consistently assumed to be
better of (in the sense of having more utility) in state X than in state Y if and only if
the agents prefer X to Y. Amartya Sen argue that preference in economics has two
senses:

“In economic analysis individual preferences seem to enter in two different
roles: preferences come in as determinants of behaviour and they also come in
as the basis of welfare measurements. For example, in the theory of general
equilibrium the behaviour of individuals is assumed to be determined by their
respective preference orderings.... At the same time, the optimality of an
equilibrium, i.e. whether the market can lead to a position which yields
maximal social welfare in some sense, is also examined in terms of preference
with the convention that a preferred position involves a higher level of welfare
of that individual. This dual link between choice and preference on the one
hand and preference and welfare on the other is crucial to the normative
aspects of general equilibrium theory. All the important results in this field
depend on this relationship between behaviour and welfare through the
intermediary of preference.” (Sen 1982: 66-67)

This argument addresses two important assumptions: firstly, that the aim of
individual’s action is to maximize the degree to which their preferences are satisfied;
and secondly, that the degree to which their preferences are satisfied determines individuals’ well-being (Angner 2005). Presumably, agents are able to satisfy their preference to the greatest extent possible with the resources available to them.

Regarding to another synonym – “welfare”, Edward F. Denison made a similar view when he wrote:

“The output available to satisfy my wants and needs is one important determinant of welfare. Whatever want, need, or social problem engages my attention, I ordinarily can more easily find resources to deal with it when output is large and growing that when it is not.” (Denison 1971)

While it is clear that economist adopt the relationship between output and preference satisfaction, they reject the notion that the satisfaction of preferences are necessarily associated with any feelings of satisfaction. Some economists have distinguished two kinds of preferences – actual preferences and ideal preferences. “Social utility must be defined in terms of people’s true preferences rather than in terms of their manifest preferences” (Harsanyi 1982: 55). He defines manifest preferences as the agent’s “actual preferences as manifested by his observed behaviour, including preferences possibly based on erroneous factual beliefs, or on careless logical analysis, or on strong emotions that at the moment greatly hinder rational choice” (Harsanyi 1982: 55). In contrast, true preferences refer to “the preferences he would have if he had all the relevant factual information, always reasoned with the greatest possible care, and were in a state of mind most conducive to rational choice” (Harsanyi 1982: 55). People’s actual preferences are often based on false information and misguided inferences. As Hausman and McPherson note:

“Economists recognize that this theoretical depicted in many standard economic model is not the real world, and the fact welfare is preference satisfaction in standard models does not imply that welfare is actual preference satisfaction in real life” (Hausman and McPherson 1996: 73, italics
in original).

This view suggests that rational behavior amounts to behavior that maximizes preference satisfaction, which is not to say that it maximizes experienced SWB. Again, preference satisfaction needs to be distinguished from feelings of satisfaction, pleasure or happiness. However, economists still adopt actual preferences as the basic measurement for utility and welfare, though they agree with the diversity of preferences. “Following the most popular interpretation among 20th century writers, utility is a measure of actual preference satisfaction.” (Mongin and d'Aspremont 1998: 382) Harsanyi (1982: 55-56) insist that the manifest preferences are the final criterion in judging what the interests are and what is really good for the agents. Hausman and McPherson (Hausman and McPherson 1996: 74, italics in original) wrote: “the best measure of well-being is the extent to which actual preferences are satisfied”.

Therefore, given assumptions e.g. on individual preference and holding prices fixed, utility is positively associated with income. That is, a high income makes it possible for agents to satisfy their needs to a greater degree (due to an increase in consumption), and thus a higher standard of SWB is attended as income increase.

Mas-Colell, Whinston and Green (1995) developed the indirect utility function \( v(p,w) = u(x(p,w)) \), which illuminates how much, utility the agent derives from \( x(p,w) \), that is, from the bundle he or she would choose given \( p \) and \( w \). Holding \( p \) fixed, the indirect utility function is strictly increasing in \( w \) (Proposition 3.D.3(ii) in Mas-Colell, Whinston and Green 1995: 56). This function assumes that individuals are perfectly informed about what bring how much utility and that they are perfectly capable of maximizing it.

Increase in the utility is associated with attaining more preferred bundles. Thus, a rational individual pursues the maximization of his/her utility within his/her constraints, the budget constraint being the most important factor. Persons with higher income have more opportunities to achieve whatever they desire: in particular, they
can buy more material goods and services. Moreover, they have a higher status in society. Higher income, thus, yields greater preference satisfaction and utility, and conversely the poor hold less utility and satisfaction.

### 2.2.2. Subjective well-being in happiness economics

The happiness economics is the study of assessing welfare by combining the economists’ techniques with those more commonly used by psychologists (Graham 2008). This approach explores a new line of economic research on well-being, using bounded rationality and behavioural economics (Graham 2008). In 1974 Easterlin published a watershed paper “Does economic growth improve the human lot? Some empirical evidence” (Easterlin 1974), which offered one of the earliest systematic examinations of the “association between income and happiness” (Easterlin 1974: 90). In this paper, Easterlin examined the correlation between income and SWB in three kinds of contexts. Firstly, he compared the average SWB among different income groups within a given country at one point in time. Secondly, he traced the tendency in the happiness of U.S. over time. Third, he made comparisons among countries with different Gross National Product (GNP) per capita in a given year. In this section, I follow Easterlin’s framework and mainly discuss the associations between income and happiness one by one.

### 1. Income distribution and SWB

The relationship between income and SWB at a particular point in time and place has been the subject of a great deal of empirical studies. In 1974 Easterlin find that among different income groups, “there is a clear indication here that income and happiness are positively associated” (Easterlin 1974: 99). In more recent study, Easterlin (2001) reports that a clearly positive association between happiness and
income groups, using the General Social Survey data in 1994. In particular, only 16% in the lowest income class report themselves very happy, relative to 44% in the highest. The mean happiness increases directly with income class from a low of 1.8 to a high of 2.8.

Di Tella, MacCulloch, and Oswald(2003) uncover a similar pattern in Europe, using the Eurobarometer Survey Series data and the United States General Social Survey on a million randomly sampled Europeans and Americans from the 1970’s to 1990’s. They find that richer people, on average, have higher SWB than do the poor. For instance, in European samples, 88 percent of those located in the upper quartile of the income bracket rate themselves to be “fairly satisfied” or “very satisfied”, while only 66 percent of those in the lowest income quartile do likewise.

Blanchflower and Oswald (2000) confirmed the positive effect of income per capita in the household on life satisfaction, using data on 100,000 randomly sampled Americans and Britons from 1972 to 1998. The relationship between income and SWB both in simple regressions and when a large number of other factors are controlled for, proves to statistically significant in Switzerland (Stutzer 2004). These findings are consistent with the neo-classical theory of utility.

However, the relationship between income and happiness seems to be non-linear; there is diminishing marginal utility with absolute income. That is, the same proportional increase in income yields a lower increase in SWB at higher income levels. The World Values Survey, for instance, provided evidence for diminishing marginal utility. The survey was conducted in the years 1980-82, 1990-91 and 1995-97 and included between 18 and 30 countries (a total of 87,806 observations). It has been estimated that for a person moving from the fourth to the fifth decile in the distribution of family income, subjective well-being rises by 0.11 (on a ten point scale with 1.0 indicating the lowest, and 10.0 the highest level of satisfaction). In contrast, moving from the ninth to the tenth decile increases subjective well-being by only 0.02 (Helliwell 2002).
Even very rich people – the Forbes’100 wealthiest Americans – were only about 1 point higher on a 0 to 6 life satisfaction scale (Diener, Horwitz and Emmons 1985). With net wealth all exceeding $100 million, about 80% of those rich people agreed that “Money can increase OR decrease happiness, depending on how it is used.” And some were indeed unhappy. One female respondent reports that money could not undo misery caused by her children’s problem.

Although the differences in SWB between income groups are significant, income inequality can only account for a low proportion of the variances in SWB among persons after controlling for some other socio-economic factors, such as employment status, occupation, and so on. ED Diener and Robert Biswas-Diener (2002) reviewed 11 published studies and find that income was modestly related to various forms of SWB (e.g., happiness, life satisfaction, and positive affect) in all studies, except the study held in very poor areas of Calcutta.

There may be many different reasons why higher income does not simply translate into higher SWB. Without doubt, one of the most important ones is that individuals compare themselves to other individuals. It is not the absolute level of income that matters most but rather one’s position relative to other individuals. Concepts of interdependent preferences due to comparisons with relevant others (see e.g. Becker 1974; Pollak 1976). Supplement ideas focusing on preference changes due to comparison with, for example, one’s past consumption level or expected future income. The low correlation may, of course, simply reflect substantial random disturbances.

Many economists in the past have noted that individuals compare themselves to significant others with respect to income, consumption, status or utility. Thorstein Veblen (1992/1899) coined the notion of “conspicuous consumption”, serving to impress other persons. The “relative income hypothesis” has been formulated and econometrically tested by James Duesenberry (1949), who posits an asymmetric structure of externalities. People look upwards when making comparisons. Wealthier
people impose a negative external effect on poorer people, but not vice versa. As a result, savings rates depend on the percentile position in the income distribution, and not solely on the income level, as in a traditional savings function.

Easterlin (1974; 2001; 1995) uses the concept of aspirations as a frame of reference to explain SWB. He acknowledges that people with higher income are, on average, happier, but raising everybody’s income does not increase everybody’s happiness, because in comparison to others income has not improved. He wrote:

“... [T]here is a “consumption norm” which exists in a given society at a given point in time, and which enters into the reference standard of virtually everyone. This provides a common point of reference in self-appraisals of well-being, leading those below the norm to feel less happy and those above the norm, more happy. Over time, this norm tends to rise with the general level of consumption, though the two are not necessarily on a one-to-one basis” (Easterlin 1974: 112-113).

This interpretation of the data is supported by consistent findings showing the importance of relative judgments for happiness. Diener and Lucas (2000) pointed out two main topics in this theory – the relative standards against which people compare themselves, and the processes by which these comparisons are made.

In the survey given by Campbell and his colleagues (1976), the respondents were asked to report their satisfaction in housing and neighbourhood and questions that might be involved in social comparison. Their findings showed that domain satisfactions were influenced by a variety of comparisons including comparisons to friends, relatives and neighbours, to one’s past and future experiences in each domain, and to one’s aspirations and expectations. These comparisons form a frame of reference against which events, conditions, and amounts of resources are judged. Compared to the needs theory, comparison theory maintains that the absolute level of a condition usually has little influence on SWB. Because individuals make judgments
with various standards of social comparison, the same objective conditions may bring about unpleasant or pleasant affection. They, therefore, concluded that domain satisfactions are largely determined by the comparison of their standing in each domain to relevant standards.

A particularly interesting aspect is the connection established between the parameter of what people consider “sufficient” income and their actual income, which measures the “preference drift” due to a change in income. A positive correlation suggests that the ex post evaluation of a higher income is smaller than its ex ante evaluation. So what rich people consider a “sufficient” income, for example, is higher than what poor people consider a “sufficient” income.

Stutzer (2004) tested social comparison theory with data on more than 6,000 interviews with residents of Switzerland. He measured respondents’ aspiration levels with two indicators: One is the amount of sufficient income for their entire household; the other is the amount of minimum income to meet their basic needs. The results of regression model prove that sufficient income affects SWB much more than absolute income does.

Fred Hirsch (1976), in his book “Social Limits to Growth”, emphasizes the role of relative social status by calling attention to “positional goods” which, by definition, cannot be augmented because they solely rely on not being available to others. This theme was taken up by Frank (1985) who argues that the production of positional goods in the form of luxuries, such as exceedingly expensive watches or yachts, is a waste of productive resources, as overall happiness is thereby decreased rather than increased.

There is little doubt that people compare themselves to other people and do not use absolute judgments. But it is crucial to know with what other people such a comparison is being made. In a study of 5,000 British workers, Clark and Oswald (1996) formed the reference group comprising persons with the same labor market
characteristics. They conclude that higher the income of the reference group, the less satisfied people are with their job.

Social comparisons within the family are studied by David Neumark and Andrew Postlewaite (1998) in order to test the role of relative income for utility. They find that the decision of a woman to go for paid work depends on whether her sisters and sisters-in-law are employed and how much they earn at their job. The effect of the distribution of income on happiness has so far been rarely addressed, mainly due to the lack of suitable data.

A fascinating finding by Alesina, Di Tella, and MacCulloch (2004) suggests that there is a large negative and statistically significant effect of inequality on happiness in Europe, but not in the United States. This may be explained by Europeans having an inequality aversion, while Americans do not. Alternatively, upward social mobility is perceived to be larger in the United States than in Europe, and therefore being low in the income distribution is not seen as affecting future income.

As pointed out by Merton und Kitt (1950), relative deprivation can be regarded as a concept pertaining to the broader reference group theory. The basic idea of the latter is that people compare themselves with other individuals or groups when evaluating their own situation (Kelley 1968; Merton and Kitt 1950). Relative deprivation, then, refers to a situation in which people perceive themselves to be disadvantaged in relation to others.

In “The American Soldier,” Stouffer et al. (1949) find that soldiers' feelings of dissatisfaction were less related to the actual degree of hardship they experienced than to the situation of the unit or group to which they compared themselves. The concept of “relative deprivation” was introduced to explain these findings. Consequently, happiness might carry a strong relative component, which is decisively rooted in social utility, rather an economic one. This is in line with Easterlin's (1974) claim according to which a generalized augmentation in income will not increase happiness
in a given population, simply because one’s relative income – relative to fellow citizens – has not improved.

The detrimental effect of relative deprivation on happiness has been proven in numerous studies. Clark and Oswald (1996), for instance, showed that British workers are less satisfied with their jobs when the income level of their reference group is higher. Psychologists and behavioral economics demonstrated experimentally that people avoid outcomes through which they end up having less than the majority, even if they improve their situation drastically in absolute terms (Frank 1997; Kahneman and Krueger 2006; Smith, Diener and Wedell 1989; Tversky and Griffin 1991). With respect to happiness, people tend to be happier if they think they outclass others, rather than simply acknowledging what they have in absolute terms. Furthermore, negative experiences are more salient than positive ones: relative disadvantage makes people unhappier than relative advantage makes them happy. In other words, pain is more intensively felt than comfort (Delhey and Kohler 2006).

Despite the positive evidence, there are a number of studies in which no effect of comparison was observed. Firstly, at the national level, Diener et al. (1995) report that no effect of social comparison between one country and its neighbouring nations was found. Regarding to smaller groups, Diener and his colleagues examined the roles of ethic groups and educational groups in forming reference for SWB judgment. Yet, these two factors did not influence on SWB after controlling absolute income.

Besides, Fujita (1993) offers a systematic study on social comparison at the individual level. He assumed that among college students, roommates served as proximate and similar others with whom they could compare their standing on specific domains. That is, domain satisfaction should be influenced by student’s roommate’s standing on that domain. Yet, he finds no social comparison effects for financial status, physical attractiveness, and grades. Furthermore, he even discovers an opposite-direction effect for social life: when the roommate had a good social life, the respondent actually had higher level of satisfaction than when his roommate had a
bad social life. He argues that self-report social comparison measures only predicted satisfaction judgments because these measures include an implicit self-rating. After controlling the self-rating, the effects of the social comparison disappeared. Thus, he concluded that the strong correlation between SWB and self-reports of comparison to others does not necessarily indicate that the comparisons impact on feelings.

Some studies on the importance of comparison in the judgement process provided with another kind of evidence against the social comparison theory – when people are asked whether or not they use social comparison when making satisfaction judgments, the majority of people say “no”. Ross, Eyman and Kishchuk (1986) report that only about 10% of respondents made their satisfaction judgment based on social comparison information and comparison to their past experiences. Schimmack et al. (2002) also observed that people claimed rarely using social comparisons in the process of satisfaction judgment. The findings suggest that we should develop theories that can predict and test when and how social comparison functions in natural settings.

In a recent study, Diener et al. (2000) uncover most respondents report high level of satisfactions with domains in which they rated comparison others as high (r=.69, p<.001). The respondents were most satisfied with their own “niceness”, where as they rated their reference groups as highest on the trait. In addition, respondents’ self-report health states were related to the average states of university student (r=.28, p<.01) and of their most-compared other (r=.25, p<.05). They wrote:

“The biggest challenge for relative standards theorists is to develop theories that can explain the considerable complexities in the ways people use comparison standards. These theories must be able to explain when people use comparison standards, who will use them, which standards will be used, and how these standards will influence SWB.” (Diener et al. 2000)

Without direct measure of comparison to one’s past or to other people, we cannot
answer the question of whether “social comparison” effects result from using other people’s standing as a standard, or from changes of one’s own values and goals which are affected by social context.

2. Income growth and SWB

In his work of 1974, Easterlin (1974) discovers a striking relationship: per capita income in the United States has risen sharply in recent decades, while average SWB has stayed virtually constant. Several scholars (e.g. Blanchflower and Oswald 2000; Diener and Oishi 2000; Diener and Suh 1997; Lane 2000a) consistently confirmed that despite strong economic growth, there were no significant increases in mean reports of SWB in France, the United Kingdom, Belgium, Japan and USA since World War II. Graphically, the development of income and happiness diverges like open scissors. Frey and Stutzer (2002) report that between 1972-74 and 1994-96, overall mean equivalent real income in the sample has increased from US $ 17,434 to US $ 20,767 (19 percent). But the overall mean happiness rating has even decreased slightly, from 2.21 to 2.17. In 1972-1974, average life satisfaction rated on a 4 point scale was 2.21. In 1994-1996 after more than 20 years of increasing affluence, average life satisfaction has even decreased slightly to 2.17. After controlling for individual characteristics, there is even a negative time trend in USA. Alesina, Di Tella, and MacCulloch (2004) also find no significant association between real GDP per capita and life satisfaction for 12 European countries between 1975 and 1991, even when individual characteristics as well as the unemployment rate, inflation rate and income distribution were controlled for.7

What can be inferred from these cases? The missing correlation is not due to a changing population. It has been shown for the United States that average SWB of a

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7 A more fundamental objection could question whether it is in principle possible to capture trends on a closed scale. Valuable complementary evidence could be provided by measures of mental well-being like the General Health Questionnaire (David Goldberg 1972), where much less framing in terms of categories is to be expected.
cohort also remains constant over the life cycle, despite considerable growth in income (Easterlin 2001). The results can be taken as an indication that there is more to subjective well-being than just absolute income level.

A possible process people go through is that of adjusting to past experiences. Human beings are constantly drawing comparisons from the past or from their expectations of the future rather than from absolute levels of income. Additional material goods and services initially provide extra pleasure, but it is usually only transitory. Higher satisfaction with material things wears off. Satisfaction depends on change and disappears with continued consumption.

Apart from the influence of the past, the satisfaction in terms of rising income also depends on the change in others’ life styles as far as economic growth more or less improves the living condition of a majority of the population. That is, the increase of one’s reference group’s increased condition enhances one’s aspirations and evaluation standards in order to raise the level of income necessary to maintain a given level of SWB. Rainwater (1994) observes elasticity for the Americans of unity over the period from 1950-1986. That is, the perceived amount of income as necessary to get along was nearly constant at three-quarters of actual per capita income in the period. It means that the growth of income is neutralized and fails to bring any net increase in SWB. This effect is closely linked to what in the psychological literature is called adaptation and hedonic mill, which are discussed in the next session.

However, not all the findings are consistent with the striking point. Diener and Oishi (2000) report there are other western countries like Denmark, Germany and Italy that experienced substantial real per capita income growth as well as an (small) increase in report satisfaction with life in the 1970s and 80s. Oswald (1997) study nine European countries during a time of rapid economic growth (1973-1990), using the Eurobarometer data, and find that SWB was not moving uniformly upwards. The majority of those European countries like West Germany, Denmark, Italy, Luxemburg, and Netherlands experienced increases in life satisfaction, while Britons report a
downwards tendency in satisfaction with their lives. Recently, Frijters, Haisken-DeNew, and Shields (2004) report significant positive effects of increased real income on life satisfaction in East Germany following reunification, using data from the German Socio-Economic Panel (GSOEP). In particular, a one-unit increase in log income leads to about a 0.5 increase in life satisfaction with scale from 0 to 10.

These contradict examples indicate that there is no clear cut trend, positive or negative, in SWB over periods of the past 20 to 30 years. The pattern of income and SWB is merely a statistical relationship of highly aggregated variables. I cannot know what would have happened to SWB, if inequality had deteriorated, if unemployment had risen, or if other social trends had not evolved the way they did. Nevertheless, it is evident that income growth is not a major source of SWB, although it may be influential sometimes and somewhere.

3. GNP and SWB among countries

The third analysis is the comparison among countries with different Gross national Product (GNP) per capita at a given point in time. In fact, the relationship between GNP and the average level of SWB is less well studied than that between individual income and SWB due to the limited availability of comparable data. Most of large-scale surveys have been conduct in a limited set of developed countries, and very seldom studies apply identical questions, making results hardly comparable (Inglehart 1997). Therefore, one should be cautious to accept the findings on this relationship in that the results could be altered by including or excluding the outliers.

In Easterlin’s (1974) study, no significant relationship between national wealth and SWB is found in spite of consistent differences in the average levels of SWB between these countries, after removing outliers. This finding raises the question of “why do national comparisons among countries and over time show an association between income and happiness which is so much weaker than, if not inconsistent with, that shown by within-country comparisons?” (Easterlin 1974: 111) To answer the
question, he argues that people’s happiness is not a function of their absolute incomes, but of how their income compares to that of others in the given countries. In contrast, Veenhoven (1991) includes the outliers and finds a positive relationship with a correlation of r=.51.

Moreover, various studies provide evidence that on average, richer countries bring their citizens more SWB. Ed Diener & R. Biswas-Diener (2002) observed the large correlations between the wealth of nations and the mean report SWB in them. Besides, Peggy Schyns (2002) tests both individual and contextual determinants of life satisfaction, using the data of World Values Surveys in 42 countries. With the multilevel modeling, he finds that the macro-level variable real GDP per capita is a stronger predictor of life satisfaction (0.284) than the individual income and other control variables. Moreover, the cross-level interaction between GDP per capita and individual income is tested and found significant: poor people living in poor countries are less satisfied with their lives than poor people living in affluent countries. In addition, he also includes Gini coefficient in the multilevel model and finds that economic inequality has smaller but significant impact on life satisfaction.

The World Values Survey (Inglehart 2000a) offers another source for international comparisons of SWB. Inglehart and Klingemann (2000) test the association between average levels of SWB and GNP per capita with these data on 65 cases (nations) and find that the simple correlation between these two variables is .70, indicating that economic development is crucial to national levels of SWB.

Moreover, Inglehart (1997) emphasizes the decreasing marginal contribution of GDP per capita to SWB across nations. That is, the newly developed societies like South Korea and Taiwan benefit more from the economic growth than the rich countries. In these societies, SWB saliently increased with high economic growth in the past decades. At the same time, they also displayed some evidence for the weak relation between GNP per capita and SWB – above $ 13,000 in 1995 PPP (such as Spain and Portugal), the correlation between wealth and SWB disappeared. The
flattening of the curve for the developed countries implies that there seems to be an income threshold ($13,000 in 1995 PPP) beyond which per capita income is weakly associated with SWB. For those societies, cultural factors such as religion seem to contribute more to the diversity of SWB. They, thus, maintain that a society’s baseline level of SWB is shaped by culture and history as well as economic development.

Notwithstanding the positive cross-national correlation between income and SWB, there seems to be no substantial causal relationship between the two variables. Rather the correlation seems to be primarily, if not exclusively, due to a third influence such as culture and history (Inglehart and Klingemann 2000). It is especially true for the case of China. China’s per capita income is far below the income threshold but achieves high rates of annual economic growth in the past two decades. One may expect that economic growth would lead to higher collective SWB in China. However, the declining levels of SWB suggests that there are more important factors other than economic income determining people’s SWB in this period.

2.2.3 Economic transition and “frustrated achievers”

The shock transition taking place in the ex-communist countries of central and Eastern Europe and the former Soviet Union has profoundly affected the lives of people living in these countries. Almost all of those countries had suffered severe recessions, rising unemployment and, in a number of cases, a virtual collapse of living conditions after the sudden transition, although they achieved more liberation and democracy (The European Bank for Reconstruction and Development 1999; 2007). Figure 2.1 presents the economic performances in four transitional countries between 1989 and 2000. Czech Republic and Hungary recovered rather quickly after the shock, while Russia’s economy fluctuated. In contrast, Romania experienced a long economic recession – its GDP per capita had not reached back the level of 1989 in the 1990s.
Such economic transitions violently influenced on people’s feelings. Economic crisis overshadowed the benefits of liberation and democracy at the beginning of transition. A majority of people in the transitional societies experienced much less subjective well-being after the shock than before (See Figure 1.2). The levels of collective SWB in the transitional countries were even less than those in other much poorer countries like India and Nigeria (Inglehart 2000c).

Inglehart (2000c) displayed that all countries of the former Soviet Union suffered incredibly low levels of subjective well-being, using data from the 1990 and 1996 World Values Surveys. More than half of the people in Russia, Belarus, and Ukraine report unhappy and dissatisfied with their lives as a whole. With respect to Russia, Inglehart and Klingemann (2000) traced back the 1981 World Values Surveys data conduct in Tambov oblast, a region in Russia. Using the region as a stand-in for Russia in 1981, they find that Russians were less happy than those of Nigeria, Bangladesh, Turkey, and India before the shock transition. But the transition in 1990 even brought Russian more dissatisfaction and unhappiness rather than positive outcomes. SWB kept dropping after the collapse, and the overwhelming majority of
Russians were unhappy in 1995. In other countries of the former Soviet Union, average levels of life satisfaction decline more or less 5 years after the shock therapy (see Table 2.1).

| Table 2.1 Average subjective well-being in transitional countries (1990-2000) |
|-----------------------------|-----------------------------|-----------------------------|
| East Europe                |      |      |      |      |      |      |
| Bulgaria                   | 5.03 | 4.66 | 5.50 | 5.37 | 4.45 | 4.65 |
| Czech                      | 6.37 | 6.39 | 7.06 | 5.52 | 4.35 | 4.81 |
| E.Germany                  | 6.72 | 6.64 | 7.18 | 6.00 | 5.00 | 5.93 |
| Hungary                    | 6.03 | 5.86 | 5.80 | 6.01 | 4.99 | 5.2  |
| Poland                     | 6.64 | 6.42 | 6.20 | 5.70 | 4.90 | 5.27 |
| Romania                    | 5.88 | 4.86 | 5.23 |      |      |      |
| Slovakia                   | 6.15 | 6.07 | 6.03 | 7.29 | 6.83 | 6.53 |
| Slovenia                   | 6.29 | 6.46 | 7.23 | 6.72 | 6.08 | 6.31 |
| CIS                        |      |      |      |      |      |      |
| Russia                     |      |      |      | 5.37 | 4.45 | 4.65 |
| Belarus                    |      |      |      | 5.52 | 4.35 | 4.81 |
| Estonia                    |      |      |      | 6.00 | 5.00 | 5.93 |
| Lithuania                  |      |      |      | 6.01 | 4.99 | 5.2  |
| Latvia                     |      |      |      | 5.70 | 4.90 | 5.27 |
| Others                     |      |      |      |      |      |      |
| China                      |      |      |      | 7.29 | 6.83 | 6.53 |
| S. Africa                  |      |      |      | 6.72 | 6.08 | 6.31 |

Note: Subjective well being measure: ‘All things considered, how satisfied are you with your life as a whole these days?’ Ten-point scale: 1=dissatisfied, and 10=satisfied


The situations were better off in some countries in 2000. But the levels were still below those of 1990 in all five countries which were surveyed in the three waves of World Values Surveys. Beside of the former Soviet Union, the levels of subjective well-being also fell sharply in some East European countries’ after the transition (see Table 2.1). The largest drop happened in Romania, where SWB fell from 5.88 in 1990 to 4.86 in 1995. Hungary, Poland and Slovakia experienced less declines in SWB during this period, while the other countries finally got increase. Jan Dehley (2004) shows that over 10 years after the transition, many East European countries still held much lower level of subjective well-being than did the Europe Union Member States. Beside, South Africa first got a decline of 0.64 unit of SWB at the scale from 1 to 10
in 1995 and got back a bit in 2000, while China was consistently losing SWB in those years.

How can we explain the fluctuation of SWB in the transitional societies? Obviously, the material hardships occurred in the countries certainly undermined people’s subjective well-being. Hayo and Seifert (2003) analyze the relationships among life satisfaction, economic well-being and socioeconomic factors in Eastern Europe, using data from “New Democracies Barometers” from 1990 to 1995. First, life satisfaction was highly correlated with economic satisfaction – about 50% of the variances in life satisfaction could be attributed to the differences in economic satisfaction in all countries investigated. And then economic satisfaction is largely determined by income quartiles and material wealth.

Graham and Pettinato (2002a) compare the levels of SWB in Russia and Peru, using a 1985-2000 nationally representative panel in Peru and a household panel data for years 1995 to 1998 in Russia. These authors find low levels of happiness throughout almost all income groups in transition economies like Peru and Russia, even in times of economic growth. This phenomenon reflects a rapid change in the national income distribution in which income inequality is becoming increasingly skewed towards the upper income groups (“top-driven inequality”). As a result, the position of most income groups relative to the country’s mean income becomes more disadvantageous than before. Gigantic income gains in the hands of a thin minority raise a nation’s mean income level considerably such that most income groups find themselves farther below or a little above the new mean, thereby deteriorating their relative income position, even if their incomes have increased in absolute terms.

In particular, the negative skew in perceived income mobility was higher for the middle income groups than for either poorer or richer respondents in Peru. That is, those in the middle income groups more likely assessed their past economic progress as negative or very negative. Nearly 50% of the richest respondents had negative assessment on their situation. Meanwhile, poor, especially rural, respondents were more likely to report no changes in their economic situation than richer respondents, indicating the poor have lower reference norms. In Russia, most of the losers could
accurately assess their trajectories but 72% of those with no worse economic situation complained the decline in their situation. In other words, high levels of macroeconomic volatility accompanied by related high levels of income mobility could make individual negatively assess his economic progress.

2.2.4 Conclusion

SWB is not identical to utility, but it well reflects people’s judgment of their material situation. Most economists take it for granted that high income leads to higher SWB. The empirical research on SWB provides with evidence both supporting and contradicting the postulate. The associations between income and SWB seem to differ between countries and within a given country. In line with commonsense, it is found that at a particular point in time, and within a particular country, higher income is associated with higher individual SWB. By contrast, higher per capita income in society seems not to raise the collective self-report satisfaction with life in the western world.

Furthermore, the rapid economic transition has dramatically altered the average levels of SWB in the ex-communist countries. Graham and her colleagues provide evidence that income mobility could make almost all income groups negatively assess their economic achievements because national property has been accumulated in the hands of several small upper income groups. Although having better economic situations, the “frustrated achievers” in these countries, therefore, suffered depression and less satisfaction. This situation might also exist in China in that Gini coefficient has risen rapidly with the economic growth in past decades, which has been mentioned in Chapter one.

However, when specifically interested in the impact of economic variables, economic effects may be distorted by the impact of non-pecuniary factors for which
are difficult to control. For instance, the dynamics of comparison is not clear in that it is not easy to identify the reference group for single individuals. Probably, this can be attributed to the rise in aspiration levels or the adaptation going with increases in income (Easterlin 2001). I shall therefore turn to the question how psychological and social factors affect on SWB.

2.3 Subjective well-being in psychology: Can we substantially improve our happiness?

Although philosophers and economists mentioned happiness and well-being long ago, psychologists have contributed to the main empirical progress in SWB research. According to the positive psychologists, traditional psychology overlooked positive emotions because they were seen as derivation from, or less authentic than, negative emotions, and therefore less worthy of study.

Since the 1960’s, the positive psychology movement greatly promoted the development of SWB research in psychology. Positive psychology proceeds from the assumption that positive emotions are no more derivate (and no less authentic than) negative ones, and therefore worthy of attention in their own right. A number of psychological factors like personality (e.g. Lykken and Tellegen 1996), adaptation to conditions (e.g. Lucas et al. 2002) and goal striving (e.g. Emmons 1986) are found to substantially impact on individual SWB. In this section, I discuss the efforts from the discipline of psychology. It is always difficult to tell which studies can be grouped into the field of psychology. From what I have argued, many studies were probably not as influential as the ones I mention here, and have therefore been omitted. It is certainly impossible to cover all of the important works in this review. Below I would like to only focus on the following theoretical frameworks: personality theory,
aspiration and goal theory, and self-agency theory.

### 2.3.1 Personality and SWB

According to a modern definition, “personality psychology is the scientific study of the whole person. The goal of personality inquires is to provide a scientifically credible account of human individuality” (McAdams 2001: 11308). Personality, according to psychology, usually refers to the pattern of collective character, behavioral, temperamental, emotional, and mental traits of adults composed of biological and learned components.

Beginning in the late 19th century, psychologists had made a great effort to develop reliable methods for studying differences in personality traits across people and over time. Personality is defined as a biological predisposition to certain types of responding that appears early in life and has a large genetic component. Relevant supports come from many behavior-genetic studies of heritability. Costa and McCrae (1994) review evidence that even over a period as long as thirty years adults are stable in their personalities. Likewise, many studies indicate that SWB also shows rather stability over time. Magnus & Diener (1991) determined that life satisfaction correlated .58 with the same measure administered four years later. The correlation was .52 when life satisfaction was self-report at time 1 and four years later report by family and friends of the respondent. Utilizing two measurement sources – self versus informant report – demonstrates the stability of SWB is not due to social desirability or acquiescence. On the other hand, the affective components of SWB (pleasant and unpleasant affect) also yield stability over time. Costa and McCrae (1994) find that there were significant stability coefficients (in the .50 range) between the spouse’s ratings of the target person’s emotions at time 1 and the target person’s self-rating six years later. Watson and Walker (1996) find that trait affect scales showed a moderate
level of time stability over a six-year period. An alternative explanation that SWB stability is due to constancy in people’s external conditions is not supported by research of changing conditions across the life span.

Heritability studies, as Diener and Lucas (1999) point out, discover the substantial biological impacts on SWB. The evidence suggests that there are consistent and stable individual differences in SWB that are more or less inherited. The probably most frequently quoted study on the heritability of personality characteristics and SWB is the Minnesota study of separated twins designed by Tellegen and his colleagues (1988). They examined monozygotic and dizygotic twins who were raised together and others who were raised separately. Because monozygotic twins share all of their genes, whereas dizygotic twin share on average half their genes, the effects of genes on personality can be assessed through comparisons of the different sets of twins. They find that even when monozygotic twins grow up in different homes, they are extremely similar in SWB; where as dizygotic twins who were raised in the same home were on average far less similar. Twins reared together were not much more similar than twins reared separately. Surprisingly, shared family environment accounted for almost no variability in unpleasant affect, and just slightly more for pleasant affect (22 %) and well-being (13 %).

Afterwards, Lykken and Tellegen (1996) come up with a very striking view, namely the base-line theory. The theory claimed that long term SWB is determined primarily by a person’s genetically based dispositions, although events can temporarily move individuals above or below their base-line. They report that genes account for 80 percent of the stable variance in long-term self-report SWB. Thus, they even concluded that attempting to improve SWB is a futile pursuit.

To explain the role of personality in determining SWB, Brickmann and Campbell (1971) establish an adaptation theory in which people over time often adapt to positive and negative events. People might initially react strongly to events but then return to a base-line of SWB that is determined by their inborn personalities. Thus,
individuals with higher adaptation capabilities tend to be happier.

Heady and Wearing (1989) affirm that people will ultimately return to their own base-line after the occurrence of good or bad events. They built a “dynamic equilibrium” theory for explaining the phenomena. The theory maintains that personality determines base-line levels of emotional response; specific life baseline, but they will turn to their stable set point later. The dynamic equilibrium model offers explanation for the association between personality and SWB. They believed that a person’s baseline level of SWB is determined by their temperament; specially, extroversion and neuroticism determine one’s baseline level of SWB through the strength of their reward and punishment systems. Though life circumstances temporarily move people away from their baseline, their reward and punishment systems will finally push them back to their baseline level. For example, winning the lottery will move a person above their normal state for a period of time, but slowly the person will adapt and move back to baseline as determined by temperament and the lottery money will not affect the person’s happiness.

Given the strong relationship between personality and SWB, the question is which dimensions of personality are able to predict people’s affective experience. DeNeve and Cooper (1998) identify 137 personality traits correlated with SWB. Myers believed that four traits characterized happy people: self-esteem, personal control, optimism, and extraversion. But in recent studies, the Five-Factor Model8 or “Big Five” – extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience (OCEAN) – has received a lot of attention. Although the five factors have different names in different studies, the basic structure of each of the factors is consistent across cultures and across different methods of analysis. It is widely accepted that the five dimensions are held to be a complete description of personality, and other personality characteristics are derived from these five factors. For SWB,

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8 Big Five refers to the five-factor model consisting of five personality dimensions (OCEAN): Openness to experience, Conscientiousness, Extraversion, Agreeableness, and Neuroticism. The five dimensions are held to be a complete description of personality. See Fujita (1999) for a review.
these five dimensions are found to exert different roles.

At first, extraversion and neuroticism are received a majority of empirical attention. Extroversion includes characteristics such as sociability, and correlates significantly with pleasant emotions. Neuroticism includes characteristics such as anxiety and strongly correlates with unpleasant thoughts and emotions.

Costa & McCrae (1980) report that extroversion was associated with pleasant affect and neuroticism was associated with unpleasant affect over a ten-year period. Fujita (1993) used confirmatory factor analyses and multiple methods of measurement to examine the correlation between extroversion, neuroticism, and pleasant affect. He finds that the correlation between pleasant affect and extroversion is rather high, and that neuroticism and the experience of negative affect are hardly separable. Diener and his colleagues (1992) report that American extroverts were generally happier despite of living alone or with others, working in solitary or social occupations, or living in small or large cities. They were also happier across ethnic, gender, and age groups. Lucas & Fujita (2000) find that extraversion correlated .38 with pleasant affect at the zero-order level. Furthermore, when multiple and diverse methods of measurement were used to model the association between extraversion and pleasant affect, the correlation often reached .80.

On the other hand, Fujita (1993) claims that neuroticism is strongly associated with negative affect. Agreeableness and conscientiousness moderately correlate with SWB at lower levels than extraversion and neuroticism.

The relationship between extroversion and positive affect is strongly supported, but the reasons are not clear. One hypothesis is based on temperament in which extroverts are biologically predisposed to react more strongly to rewards. A second view states that extroverts spend more time in social situations which tend to produce positive affect. A third view is that extroverts may experience more positive events due to an ability to elicit rewarding outcomes for themselves. Headey and Wearing
(1989) discover that extroverts experienced more positive events over a period of years, while Neurotics generally experience more unpleasant life events. Highly neurotic individuals recurrently experience more negative life events than less neurotic people.

Both conscientiousness and agreeableness correlate moderately with SWB but at lower levels than extroversion and neuroticism. Whereas research suggests that extroversion and neuroticism are based on neural approach-and-avoidance systems and are automatically associated with more positive or negative affect, respectively, the relation of conscientiousness and agreeableness to subjective well-being is thought to depend on whether individuals with these traits are rewarded within particular environments. These variables have not been extensively studied and warrant additional analysis.

The fifth trait of the Big Five, openness to experience, is generally not related to an individual’s experience of positive or negative affect or life satisfaction. For example, Gottfredson (1994) uncovers that openness to experience did not correlate with job satisfaction. This variable is thought to relate to emotional intensity by influencing how happy and unhappy moments are experienced rather than influencing how happy or unhappy a person is.

To sum up, the major finding of personality studies on SWB is that the affective and cognitive components of SWB are rather stable across time and across situations, and by a number of personality traits and constructs. These components hold different relationship with different personality traits. Pleasant affect is moderately related to Extraversion, but only slightly related to neuroticism; Unpleasant affect is moderately correlated with neuroticism, but only slightly related to extraversion. The structure of relations and the variety of research methods used to examine these relations support the validity of the SWB construct as well as the instruments used to test it. It is consistently affirmed that SWB ratings are theoretically and empirically related to personality constructs.
However, it doesn’t mean that personality is able to completely determined SWB. “Traits can be powerful, but are not enough” (Diener 1996). The highest estimate of the effects of a person’s genes on his or her SWB given by the base-line theory is only around 50 percent for immediate SWB and 80 percent for long-term SWB (Lykken and Tellegen 1996). That is, environment influences on SWB contribute the rest variance respectively in long- and short-term SWB.

Three years after he claimed the futile pursuit of SWB, Lykken (1999) was dismayed with the misinterpretation of his result and provided with principles and techniques for improving SWB. Lucas and Diener (2000) find that people’s life satisfaction changes when important social events transpire, and then goes back to. But adaptation is not inevitable. They also find that many people report substantial long-term changes in life satisfaction after life events, showing no evidence of adaptation. But in the long-term, the levels of SWB are not solely determined by personality and genetic predispositions (Diener 1996). Thus, “Scientific understanding based on traits must be augmented by a process orientation and a study of relevant situational factors in order for the field of personality to remain an intellectually vigorous science” (Diener 1996).

2.3.2 Personal control and SWB

While the previous section discussed the roles of the Big-five, the present section focuses on the influence of another psychological factor, feelings of personal control. Before considering the effects of control in maintaining SWB, issues about defining personal control are discussed first. “Personal control refers to the individual’s belief that he or she can behave in ways that maximize good outcomes and / or minimize bad outcomes.” (Peterson 1999) There are two lines of psychological theories for defining personal control: (a) motivational theories, which emphasize the role of
motivation in shaping self and action; (b) cognitive theories, which emphasize perceptions of control and beliefs (Bandura 1977; Gecas 1989). Most researchers consider personal control as a belief or cognition, reflecting the extent to which people think they can influence the situation, either by altering it, by changing its meaning or regulating their own behavioural and emotional responses (Lazarus and Folkman 1984). Bandura (1977) distinguished between efficacy expectation – a belief that one can successfully perform a particular action – and outcome expectation – an estimate that a given action will lead to a certain outcome. The former is the sense of control and the latter is a prediction about a certain action.

Several approaches have been utilized in describing the types and dimensions of personal control (for reviews, see Baltles and Baltes 1986; Bandura 1996; Skinner 1995). A survey of the theories that elaborate these constructs is beyond the scope of a single section. So I follow a strategy here by sketching Skinner (1995: 20-28) attempts to discern a family resemblance among the contemporary cognates of personal control. Several major theories were identified and organized around the constructs: locus of control, causal attribution, learned helplessness, and self-efficacy. All these constructs focus on how individuals regard their personal experiences and whether they perceive themselves to be capable of dealing with their circumstance. The locus of control construct consists of a single internal-external dimension, with an internal locus of control predicting a variety of positive outcomes in many domains.

Causal attributions theory given by Weiner (1985) maintains that the causes to which they attribute events can be arrayed along a number of dimensions. The key dimensions are internality, stability, controllability, and intentionality, which predict many important outcomes, such as affects and behaviours. Learned helplessness theory insists that when people and other animals experience aversive events that occur independently of their responses, they learn that they are unable to response effectively. Self-efficacy, namely “self-agency”, refers to a belief concerning one’s ability to perform behaviors yielding an expected outcome that is desirable (Bandura
1989; Bandura 1994a; Bandura 1994b). This theory emphasized “the conviction that one can successfully execute the behaviour required to produce the outcome” (Bandura 1977: 193).

Individuals are greatly occupied with what they can and cannot control in their everyday lives. Personal control is both a cause and a consequence of the way people respond to their environment. Peterson (1999) wrote: “Regardless of the level of analysis, personal control is often linked to well-being, and lack of control to passivity and poor morale, social estrangement academic and vocational failure, and even illness and untimely death.” When investigating the relationship of personal control and SWB, the multidimensional construct should be taken into account. Clinically, control and lack of control have been identified as relevant to the experience of pain, anxiety and depression.

There is a great deal of research on the consequences of personal control for individual functioning and well-being (for review, see Bandura 1986: Ch. 9). Personal control provides the foundation for human motivation, well-being, and personal accomplishment. Because individuals operate collectively as well as individually, personal control is both a personal and a social construct. Collective systems develop a sense of collective efficacy – a group’s shared belief in its capability to attain goals and accomplish desired tasks. For example, schools develop collective beliefs about the capability of their students to learn, of their teachers to teach and otherwise enhance the lives of their students, and of their administrators and policymakers to create environments conducive to these tasks. Organizations with a strong sense of collective efficacy exercise empowering and vitalizing influences on their constituents, and these effects are palpable and evident (Bandura 1986). In general, this research

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9 While the determination of causality is never certain in social psychological research, I am on fairly firm ground in assuming the causal influence of personal control as report in these studies since most of this research is based on experimental or longitudinal designs. Still, in “real life” the relationship between personal control and various psychological and physical states is undoubtedly reciprocal, e.g. feelings of inefficacy can lead to depression, and being depressed can contribute to one’s sense of inefficacy.
indicates that high self-efficacy has beneficial and therapeutic consequences for individuals, and low personal control (powerlessness) has negative and maladaptive consequences.

Personal Control has been found to be important to mental health, particularly as it affects depression. In much of the research on personal control and depression, personal control serves a mediating or buffering role between some types of stress and depression. Pearlin et al. (1981) find job disruptions and economic strains to contribute to depression mainly through their negative effects on personal control.

Personal control beliefs also influence an individual's thought patterns and emotional reactions. High personal control helps create feelings of serenity in approaching difficult tasks and activities. Conversely, people with low personal control may believe that things are tougher than they really are, a belief that fosters anxiety, stress, depression, and a narrow vision of how best to solve a problem. As a consequence, personal control beliefs can powerfully influence the level of accomplishment that one ultimately achieves. This function of self-beliefs can also create the type of self-fulfilling prophecy in which one accomplishes what one believes one can accomplish. That is, the perseverance associated with high personal control is likely to lead to increased performance, which, in turn, raises one's sense of efficacy and spirit, whereas the giving-in associated with low personal control helps ensure the very failure that further lowers confidence and morale.

Furthermore, extensive research affirmed that perceived control is able to diminish subjective pain. Haggard (1949) reports that positive effects of perceiving over a painful stimulus on reactions to pain in the laboratory. Arntz and Schmidt (1989) review 34 relevant studies since 1949, and concluded that perceived control can reduce the negative effects of laboratory pain, but not always. They also find that the effects are influenced by many factors, including the effect measure, the type of control and its salience. Control over the initiation of a painful stimulus has much less positive effect than do control over the end of stimulation and over increase of
noxious stimulation. Furthermore, the positive effects of control are clearly subjected to the degree of certainty that the behavioral response will be efficacious (Miller 1979). Thus, only behavioral responses that have a salient relationship with their presumed effect have effects on reducing pain (Skinner 1995).

2.3.3 Goals and SWB

Apart from personality and personal control, goal also has great bearings on SWB. Goals reflect what is important to people and what they are typically trying to do. Goals can be studied at a broad level (values), at a narrower level (life tasks), and still narrower (current concerns). In contrast to Easterlin’s comparison theory which often traces back one’s past experience or adjust one’s aspiration level according to the reference group, goals are more or less dependent on the expectations for the future. Such expectations are “personally-relevant expectations reflecting desired end-states that person works to gain or maintain” (Diener and Lucas 2000). Goals are often considered as a reference standard for the affect system. From daily experience, achieving a goal or failing to do so is related to my positive or negative affect – positive affect is related to the degree to which one accomplishes their goals; negative affect is related to the individual’s ambivalence about their goals and conflict between their goals Emmons (1986). For example, receiving an admission letter from a famous university, organizing a successful party, being rejected by a personal manager, and losing a 100m race are all likely to, at least temporally, alter people’s SWB.

Furthermore, having important goals shows positive correlation with satisfaction, whereas conflict between one’s goals is associated with negative affect. Kasser and Ryan (1993; 1996; 2001) report that all goals are not equal and that working toward intrinsic goals is more beneficial to SWB than pursuing extrinsic goals. Intrinsic goals reflect inherent growth tendencies and satisfy inherent psychological needs whereas
extrinsic goals are imposed on the individual by society and are sought for the approval of others or some other ends. Specifically, the extrinsic goals of desire for material goods, physical attractiveness, and social recognition were associated with lower well-being while the intrinsic goals of self-acceptance, helping the community, affiliation, and physical health were positively correlated with SWB. In addition, possessing large amount of irrelevant resources is less important to individual’s SWB than possessing goal-relevant resource (Diener and Fujita 1995). On the contrary, resource loss was the strongest predictor of depression in a 10-year longitudinal study of a community sample (Holahan et al. 1999).

Compared to any other standard and reference group, goals are more likely considered in satisfaction judgment. Ross et al. (1986) discover that 31 percent of respondents report using their goals in course of making life satisfaction judgment, relative to just 10% who used past comparison or social comparison. Ross, Eyman, and Kishchuk (1986) examine the determinants of happiness with data from 212 respondents. Respondents rated only 10% of responses as related to past standards or past events, about 10% as related to social comparisons, about 31% related to progress toward goals, and 49% as related to affect (“I am feeling very smug and satisfied now”). The third source (predictive power of standards) confirms the other two.

An individual’s goals are determined by one’s life circumstances, expectations of the culture, and the person’s idiosyncratic needs (Cantor 1994). People can accomplish their goals in a variety of ways, but those with high SWB have developed effective strategies for meeting their needs within the constraints of cultural expectations and life circumstances. The content of goals, how they are approached, and resulting success or failure, affect subjective well-being. For example, more highly educated people usually have higher aspiration for their living standards. When income is held constant, the effect of education is greatly reduced (Diener et al. 1993).

There are limitations to goal approach to SWB. Goal theory can only explain part of the research findings. Brunstein, Schultheiss and Grassman (1998) insist that
motives should be distinguished from goals. In contrast to goals, motives are largely unconscious, are broad rather than specific in origin, and do not have a given point at which they are contented. Goals that accord well with motives should lead to higher SWB, but goals that conflict should not. They reports that only progress toward motive congruent goals was related to SWB. Indeed, commitment to motive-incongruent goals reduced SWB.

2.3.4 Conclusion

Psychology has contributed to the main body of happiness study in the past decades. A great deal of empirical surveys and psychological experiments reveal that SWB demonstrates some stability over time. Twin studies, temperament findings, longitudinal studies, and correlations with personality scales provide evidence that SWB fluctuates around a baseline set by one’s personality. Circumstance or events do not, at least in the long term, matter. Studies offer evidence that personal control results in human motivation, personal accomplishment and positive affection, and reduces subjective pain. People have their goals to what is important to them and they benefit from pursuing and achieving the important goals. Different factors lead to SWB across individuals with unique personality traits and goals. Different strategies may work better in different conditions for different people. Therefore, psychological factors are powerful, but are not enough. Circumstances, life events, genetic, personality, personal control, and goals must be integrated in order to explain how diverse factors impact on the components of SWB.
2.4 Subjective well-being in sociology: how is happiness embedded socially?

Sociologists insist that an individual state like subjective well-being is socially grounded. Many studies exist on the correlation of demographic, social and cultural factors with SWB. These fields have been theoretically and empirically studied by sociologists for long time. In this section, I discuss the state of the research concerning sociological topics such as demographic factors, social status, social trust and social anomie. Firstly, I examine the relationships of SWB with demographic factors, including gender, age, marital status and education. Especially, I pay attention to the important mediating roles of these factors between SWB and psychological factors, since their direct impacts are often not salient. Secondly, I address the question if people from different social classes have different levels of SWB, and if yes, how does social class works. Thirdly, I focus on the association between social trust and SWB. Next, I mention a classic sociological concept – social anomie and its impact on SWB. Finally, I sum up the effects of social factors on SWB and link them to China’s puzzle in the context of rapid social change.

2.4.1 Demographic factors and SWB

1. Gender

Gender is included in numerous studies as a predictor for SWB. However, extensive research claims that the differences in SWB between men and women are very small or nonexistent in Western nations (e.g., Andrews and Withey 1976; Campbell, Converse and Rodgers 1976; Frey and Stutzer 1999). In their large-scale
survey (N=2147) in USA, Campbell, Converse and Rodgers (1976) discover very small differences in the specific domains satisfactions between women and men, while no significant differences are found regarding the satisfaction with respondents’ lives “as a whole”. They (1976: 433) conclude: “When I compare all women in the adult population with all men, I find that they differ very little in their expressions of their lives, or their feelings of stress.”

In the same year, Andrews and Withey (1976) also find no statistically significant differences in SWB using sex comparisons. Michalos (1991) studies 18,000 college students in over 30 nations and find very small gender differences in life satisfaction and happiness. Frey and Stutzer (1999) also report that women are not happier than men.

Why do women and men hold nearly the same SWB? Diener et al. (1999) argue that while women are more inclined to depression than men, they also experience higher levels of positive affect. So, on average, there might not be a significant difference in the level of happiness between men and women. Nolen-Hoeksema & Rusting (1999: 343) find that women more likely experience negative affects such as sadness, anxiety or fear, antisocial personality disorder and conduct disorder, and substance abuse and dependence.

Although men and women report approximately the same levels of SWB, consistent gender differences in moods and behaviors are uncover. Fujita, Diener, and Sandvik (1991) find that gender can explain less than 1% of the variance in happiness but over 13% of the variance in the intensity of emotional experiences. Moreover, Forest (1996) reports that men were responsive to recent conditions and the influences of these conditions on happiness, while women tended to be sensitive in terms of life satisfaction and which was mostly affected by the events that occurred in their early lives.

Campbell, Converse and Rodgers (1976: 441-442) suggest that women were
usually socialized to value the social role of mother and homemaker and to have the aspirations and expectations which are different from those men usually have. In the social role of nurturer, women are taught to be more open to emotional experiences, including both positive and negative emotions. Nolen-Hoeksema and Rusting (1999: 334) suggest that “being socialized to experience and express the internalizing (but not the externalizing) moods and behaviors, and to be sensitive to others, emotions, lead girls and women to become more emotionally expressive than men (except perhaps for anger), to report higher levels of affect, to develop internalizing rather than externalizing coping strategies, and to develop dispositional empathy.”

Thus, the impact of gender on SWB may be indirect, being mediated by other factors. Campbell, Converse and Rodgers (1976) observe substantial differences in SWB between the two gender groups when they divide these groups along the major dimensions of life cycle. Marriage with its variations of children, divorce and widowhood is found to be the major contributor to these differences, and employment status is another factor which causes the differences between women and men (Campbell, Converse and Rodgers 1976: 433). Angelika Tölke (2001) examined the influence of work and marriage on overall satisfaction with life among women and men, using the German Socio-Economic Panel (GSOEP) data in 1986 and 1996. The author finds that women’s life satisfaction is largely influenced by marital status, number of children and the success of their husband’s career (Tölke 2001: 84).

2. Age

Like gender, extensive research includes age as a predictor for subjective well-being. Diener et al. (1995: 291) claim that “life satisfaction does not decline with age.” Is it true? Wilson (1967) surveys the earlier literature, and finds that younger people enjoyed higher SWB. Similarly, Felton’s (1987) review shows that in 1950s and 1960s the early studies report a negative relationship between age and SWB. Another review of 8 data sets, covering the entire adult age range and using two measures of well-being indicators, indicated some low but various correlations
(Herzog and Rodgers 1981). The estimates range from −0.05 to 0.11. Among them, 3 positive coefficients and 1 negative coefficient were weak, but statistically significant. On the other hand, the seven age-happiness estimates available ranged from −0.08 to 0.03. Only one positive correlation attains statistical significance. In a meta-analysis of cross-sectional estimates of the age/subjective well-being relationship, 221 zero-order effects are located from 119 different sources. Only about 41% of them are negative (Stock et al. 1983). In a word, the process of aging impacts on SWB in different ways.

More recent studies, however, show that SWB often rises, or at least does not drop with age after controlling for income, health state and other variables (for reviews, see Diener et al. 1999; Myers and Diener 1995). For example, based on a large-scale survey in Switzerland (more than 6,000 observations from 26 cantons for the year 1992), Frey and Stutzer (1999) report that people older than 60 are significant happier than the reference group, the 18-30 year-old group. Those 31 to 59 are not happier than the youngest group. Mroczek and Kolarz (Mroczek and Kolarz 1998) study the data from a nationally representative sample of 2,727 cases aged 25-74 and find that positive affect goes up with age, while negative affect declines with age. Brian Scott Ehrlich and Derek M. Isaacowitz (2002) report that the differences in average levels of life satisfaction are non-significant across age cohorts.

International studies also discover SWB does not decline with age (Inglehart 1990; Veenhoven 1984). Diener and Suh (1998) study 60,000 adults from 40 countries and find a slight increase in life satisfaction with age and little change across age cohorts with respect to the experience of negative affect. Horley and Lavery (1995) study the levels of SWB in a sample of 1,000 Canadians aged from 15 to 95. They used a number of SWB measures that included a version of the Affect Balance Scale, an 11-point life satisfaction rating, and an 11-point quality of life rating. 136 participants completed these SWB measures at the seven-year follow-up in the longitudinal component. The results indicated that older adults, especially those aged 65-75,
tended to report higher levels of SWB over time than younger people.

Recently, more and more studies constantly report the U-shaped relationship between age and SWB, with SWB being lowest in the 30’s and 40’s (e.g. Helliwell 2002). Helliwell (2002) discover a strong U-shaped pattern of the sort, using data from World Values Survey (totaling 87,806 observations spread over three waves and forty-six countries). The reference group comprises those aged 18-24. Those aged between 25 and 44 are significantly less happy than the reference group, providing some partial support for the earlier view that age is negative related to happiness. However, after reaching a low point among the 35-44 year-old group, subjective well-being thereafter rises systematically and significantly, with those 55 to 64 as happy as the reference group and those aged 65 and up much happier still. The size of the changes is large, with those over 65 having well-being more than one-half point higher (on the ten-point scale) than those 35 to 44, a difference almost as great as that between the employed and unemployed.

Several sources which cause variation in the relationship between age and subjective well-being are identifiable. They are the coverage and grouping of age, numbers and types of correlates, and various measures of subjective well-being. The concept of subjective well-being becomes meaningful only when it is placed in some context or compared with reference groups. Since studies vary in purposes, age coverage and grouping are diversified. Some may be interested in the differences among the three major life stages, as comparisons are made either among age groups of 24–44, 45–64 and 65 or above (Herzog and Rodgers 1981) or among 18–34, 35–59 and 60–69 (George, Okun and Landerman 1985). Others investigate with a complete picture of differentials in subjective well-being in the adult life span. Their samples thus cover age 18 to 91 and are divided into 10-year age groups (Cutler 1979; Spreitzer and Snyder 1974). Some others may investigate changes after middle ages. Samples may be grouped either into ages 40–54, 55–64 and 65 or above (Dolyer and Forehand 1984) or into ages 46–50, 51–55, 56–60, 61–65 and 66–70 (Palmore and
George, Okun and Landerman (1985), on the other hand, identify the intervening variables between age and life satisfaction. They find that age was an important moderator of many variables associated with life satisfaction, including marital status, income, health, and social support. A standard path model may include five types of factors: (1) attachment to the social structure which is operationalized as social demographic characteristics, (2) socio-economic achievements and resources, (3) physical health, (4) involvement in and support from primary groups, and (5) participation in meaningful social and leisure activities (Elwell and Maltbie-Crannell 1981; George, Okun and Landerman 1985; Liang et al. 1980; McClelland 1982; Mutran and Reitzes 1981). Both the level of the factors and changes in the factors occurring in the aging process might affect one’s interpretation of well-being items.

Moreover, the numbers and types of correlates employed in the regression models will inevitably affect the coefficient of age variables and make comparisons difficult. In one study, age is taken as a moderator of the determinants of life satisfaction (George, Okun and Landerman 1985), or age may affect the influence of correlates. For example, marriage is probably a resource fostering life satisfaction at all ages (Campbell, Converse and Rodgers 1976), but lack of a marital partner is not likely to be stigmatizing because of high rates of widowhood (Lopata 1973). So being married is expected to be most strongly related to subjective well-being for middle-aged persons, to be least strongly related for young adults, and an intermediate for older adults. When samples of all ages are pooled together, coefficients of the correlates and age may be disturbed.

3. Marital Status

The positive effects of marriage on SWB have been consistently found in America and Europe: compared to the single or the widowed, and especially compared to the divorced or the separated, those married are significant happier and more satisfied
with life (e.g. Glenn and Weaver 1979; Gove, Style and Hughes 1990). “Marriage and family satisfaction is one of the most important predictors of SWB” (Diener 1984: 556). Even after controlling for age and income, marriage and SWB are still significantly related to each other (Glenn and Weaver 1979).

Many studies focus on the effects of marriage on different gender groups and ago cohorts. Lee, Secconbe, and Shehan (1991) find that married women are consistently happier than unmarried women, and married men are consistently happier unmarried men. Further, marriage offers greater benefits for men than for women in terms of positive emotions, but married men and women do not differ in life satisfaction.

Campbell, Converse and Rodgers (1976: 397-421) systematically analyze the diverse meanings of marriage for men and women in nine stages of life cycle which were created with marital status, the age of the individual, and the age of his or her children. The first six stages in this sequence represent the modal life pattern, beginning with young unmarried status, running through marriage and parenthood to widowhood. The final three categories represent that part of the population which diverges from the norm, the childless married over age 30, the never married over 30, and the divorced or separated.

Based on the nine life cycle categories, they find that “there are substantial differences between the different stages of the life cycle” (Campbell, Converse and Rodgers 1976: 397). Firstly, young married people without children are found to have more satisfaction than unmarried people. But the experience of young parenthood often brought about many dissatisfactions and psychological stresses. Divorced women and men were very dissatisfied with their lives. And widowed women and men consisted of the least satisfied groups. These findings are inconsistent with the set point theory or adaptation theory that life circumstances have virtually no lasting effect on subjective well-being.

Easterlin (2003) examines the General Social Surveys data for 1972-2002 and
finds evidence for supporting Campbell and his colleagues’ study. For the young people (below 30), those who are married enjoyed higher happiness levels than those who have never married, regardless of gender. Thus, Easterlin argues that as more and more young people married and the proportion married increases, “mean happiness of the cohort as a whole increases” (Easterlin 2003: 11178). For those beyond age 30, the majority of the cohort experiences marriage at least once. Some of them get divorced, remarried or widowed. Throughout the adult life cycle, however, those who are currently married are, on average, happier than those who are not. There isn’t gap in the average happiness between remarriage and first marriage.

Furthermore, he compares the happiness level between groups with different length of marital duration. The results imply that the mean levels of both overall happiness and marital happiness between these groups are nearly identical despite their much different marriage durations, and are significantly higher than that of unmarried persons in their cohorts. Among those currently unmarried, those with broken marriage – the divorced, separated, and widowed – are significantly less happy than the rest who never married.

Recently, many studies have found the positive marriage-happiness relationship. Alesina, Di Tella and MacCulloch (2004) report that in Britain and the United States, married individuals are happier than unmarried ones; divorced, separated and widowers are less happy than “never married,” and much less happy than married individuals. Stutzer & Frey (2006) find that married people are, on average, happier than non-married people in Switzerland and divorced individuals are, on average, less happy than others. Graham, Eggers and Sukhtankar (2004) find the same relationships in Russia in 2000. In a longitudinal study with a sample of 5000 married Americans over a 5-year period (Waite et al. 2002) those who remained married are found to hold greater happiness than those who experienced dissolution of marriage, and the happiness of persons who remarried after becoming divorced was not less than that of those who stayed married.
Lucas et al. (2002) analyze 15 waves of the German Socio-Economic Panel Study (GSEOP) and find that marriage could bring people very small benefit in SWB. Married Germans were no more satisfied than they were prior to marriage. It is contradicted specifically by the cohort patterns in the American data presented here, because the mean happiness of married persons would not increase as a cohort enters into marriage. However, not all people inevitably return to their baseline level of satisfaction. Instead, the panel data recorded that a large group of people kept the high levels of satisfaction. Surprisingly, there were as many people who finally fell below their baseline. It may be the reason that married people as a whole group showed no higher satisfaction in the panel data. For the widowed, the effects of losing partners lasted much longer. Widowers suffered less satisfaction with life after the event than they were before. After a period of time, the widows who did not remarry, on average, returned to the levels which were 0.15 points below their baseline levels of satisfaction. These findings suggest that despite effects of adaptation and baseline, marital events reduce some people's SWB in the long term. Thus, Lucas and his colleagues wrote:

“One of these findings is that long-term levels of SWB are not solely determined by personality and genetic predispositions. Changes in marital status seem to be capable of producing new baseline levels of life satisfaction for individuals. People who had strong reactions to marriage or widowhood did not adapt back to their former baseline. Instead, these people appeared to establish a new baseline following the event. Thus, habituation does not appear to be an inevitable force that wipes out the effects of all life circumstances.” (Lucas et al. 2002: 536).

Why are married people generally happier? Meyers (1993; 1999) summarizes two reasons. Firstly, marriage helps form the roles of spouse and parent, which provides additional sources of self-esteem (Myers 1999). Johnson & Wu (2002) find that widowed individuals who did not remarry were still slightly lower than baseline even
at the peak of their adaptation suggests that widowhood is associated with long-lasting changes in levels of satisfaction (at least among those who do not remarry). But no similar long-lasting average effects of marriage are found, and, thus, the role theory was only supported for the event of widowhood.

Secondly, “married people are more likely to enjoy an enduring, supportive, intimate relationship and are less likely to suffer loneliness” (Myers 1999). That is, married persons engage in a long-term relationship with a strong commitment to a mutually rewarding exchange. The spouse expects some benefits from the partner’s expressed love, gratitude and recognition, as well as from security and material rewards. Marriage, thus, serves as a buffer against the hardships of life and it provides emotional and economic support which produces high levels of SWB (Coombs 1991; Gove, Style and Hughes 1990; Kessler and Ejssex 1982).

Researchers have noted that, compared to single people, married people have better physical and psychological health (e.g. less substance abuse and less depression) and that they live longer (Frey and Stutzer 2003). Marriage provides basic insurance against adverse life events and allows gains from economies of scale and specialization within the family (Becker 1981). With specialization, one of the spouses has advantageous conditions for human capital accumulation in tasks demanded on the labor market.

For example, based on the GSOSP data of 21,809 observations for 1,991 Germans who stayed married between 1984 and 2000, Stutzer & Frey (2003) discover that couples with large differences in relative wage rates got more increase in SWB, and couples with fewer differences in education, on average, benefited more from marriage. These two auxiliary findings indicate that the specialization in labor market and the similarity between partners’ educational background can improve the positive effects of marriage. Thus, “[P]revious models of the marriage market – either focusing on specialization or on complementarities in consumption – each neglects an important aspect” (Frey and Stutzer 2003: 22).
4. Education

The correlation between education and SWB is unclear yet. The professional educators constantly advocate current and potential non-economic and non-vocational functions of education, both to individuals and to the society as a whole. Glen & Weaver (1981: 23) summarized the view as follows:

“Education allegedly can enable individuals to live richer, more interesting, and more satisfying lives. According to this point of view, it should sharpen aesthetic appreciation, impart resources for satisfying use of leisure time, help in the establishment of successful interpersonal relations (including marriage and other family relations), and impart knowledge and develop skills and understanding to help deal with virtually any of life’s problems. On the societal level, education can allegedly promote tolerance and reduce prejudice, reduce inter-group tensions, enhance informed participation in the political process, and generally facilitate the amelioration of social problems.” (Glen & Weaver 1981:23)

Some studies report small but positive effects of education on SWB, providing evidence for this assertion. Glen & Weaver (1981) analyze the General Social Surveys data from 1973 to 1978 designed by James A. Davis and conducted by the National Opinion Research Center, and find predominantly positive effects of education in most of social groups (except for black males). In addition, they emphasized that the effects of education is much stronger for women than for men. The reason, they argue, might be that women have, on average, a less utilitarian approach to education. In another study, Shinn (1986) compared two sets of national sample survey data collected from the United States and the Republic of Korea. He finds that education was positively associated with subjective quality of life. Especially, the comparison indicated that education was much more important for SWB in South Korea than in USA. Shinn gave two reasons for the differences. The First one is concerned with “the extent to which education is emphasized as a life goal in the two countries” (Shinn
1986: 368). Dominated by Confucian ethics, Korean, like Chinese and Japanese, believe that higher education is essential to a good quality of life. The second reason given by Shinn is the differences in the relationships between education and other tangible resources. “Family income is distributed far more closely in line with levels of education in Korea than in USA.” (Shinn 1986: 368) Thus, highly educated Koreans are more likely to enjoy higher SWB.

Helliwell (2002) includes a measure of the average educational attainment in each society, measured in completed years. The educational attainment data are based on the estimates given by de la Fuente and Donéchech (2000) for the OECD countries and the estimates given by Barro and Lee (1996) for other countries. Their data for 1980 are used for the first wave of the WVS, and their 1990 estimates are used for both waves in the 1990s, in the absence of more recent data. In one of his models, only the individual and national education attainment variables were added to the most basic equation including only time and regional fixed effects. The results showed that one’s own education has a strong positive effect on SWB. And the strong positive effects from the national education attainment levels implied the existence of positive spillovers to others.

Beside positive affects, education is also found to be associated with negative affects. Ross and Willigen (Ross and Willigen 1997) analyze two representative national samples collected in 1990 and 1995, and find that the well educated had lower levels of emotional distress and physical distress, but they do not have lower levels of dissatisfaction. Education reduces distress largely by way of paid work, nonalienated work, and economic resources, which are associated with high personal control; but the extent to which it reduces distress by way of marriage and social support is much more modest. Thus, they argue that education reduces negative affects because it increases access to nonalienated paid work and economic resources that increase the sense of control over life, as well as access to stable social relationships, especially marriage, that increase social support.
However, the extent to which education has these beneficial consequences has been constantly challenged. Qinn and Baldi de Mandilovitch (1975) find little relationship between education and job satisfaction. Furthermore, Campbell, Converse and Rodgers (1976: 327) observe that college educated persons to be less satisfied with their marriages, on the average, than those with less education. Campbell (1981) suggests that the effect of education on SWB has become weaker over time in US. He notes that in 1957, 44% of college graduates reported being very happy, compared to 23% of those with no high school, while in 1978 the corresponding percentages were 33 and 28 percent.

How can these results for the partial effects of own and national education be inconsistent with each other? The unstable relation can be due to the high multicollinearity between education, occupation, social status and income (Campbell 1981). Helliwell (2002) reports small and insignificant effects of differing levels of education on subjective well-being. One of his explanations for this finding is that education highly correlated with income, health, and perceived trust levels which had been included in the same model. Thus, further studies should take it into account to distinguish the media role of education between SWB and other socio-economic factors.

Furthermore, education may even potentially interfere with SWB if it leads to expectations which can not be met, thus increasing the goal-achievement gap. People are generally satisfied with conditions that are the best they can expect (Ross and Willigen 1997). In addition, the measurement of education is weak in most of the studies. The certificates which individuals get from schools or colleges and the ages at which individuals finish their full-time education are very imperfect for indicating “how much education has been received or what results have been obtained” (Helliwell 2002). And the education quality also differs much from one school to another one and from country to country. Thus, in further studies, more specific measure of education may help distinguish the role of education.
2.4.2 Social class

Social class, a classic sociological concept, reflects social differentiation and social inequality. Each social class has distinctive patterns of consumption, political preferences, moral attitudes, social behaviour and lifestyle forms, which have been called class cultures (e.g., Kriesi 1989; Lipset 1981/1960). Some scholars claim that significant inequality in life chances persists between social classes (Goldthorpe 1987). For instance, Baer, Grabb and Johnston (1993) find fairly large differences between social classes in attitudes about corporations, labour and inequality, level of education, income, age, gender, and community size effects in Canada, using data from the Class Structure and Class Consciousness Study (ICPSR).

The relationship between social status and people’s feeling has been firmly confirmed by empirical evidence. Gegas and Seff (1990) discover a strong positive relationship between social class and self-esteem, which is mediated by psychological centrality and compensation. Those with higher social status typically have greater power, resources, and prestige, all of which affect self-esteem through the main processes of self-concept formation: “they enable more favorable reflected appraisals and social comparisons, as well as positive self-attributions” (Gecas and Seff 1990).

Some studies on social class indicate that individuals and groups in different social class have different SWB, as well as lots of resources. In Germany, subjective class identification and the Goldthorpe class variable are found to be related to life satisfaction and satisfaction within several life domains (Kingston et al., 2002). The correlations with either subjective class identification or the Goldthorpe variable turned out to be particularly strong for satisfaction with the standard of living, satisfaction with household income, work satisfaction, satisfaction with leisure time, and life satisfaction. That is, people in higher social class have significantly higher 'linking' social capital, which facilitates access to other resources and information.
Noll and Habich (1990) report that SWB, as measured by numerous subjective indicators, is associated with class position and the different capacities of access to resources across social strata. They show bivariate associations between many indicators and class position (Goldthorpe classification). And the effects on SWB are still significant after controlling for gender, age and nationality. Overall, living conditions and the subjective quality of life in Germany are still considerably linked to class position. That is, people in higher social class have significantly higher power and privilege which facilitates access to other resources and information. However, they note that the differences between class positions are sometimes small. While differences between those at the top and bottom of the class hierarchy are particularly sharp, differences between classes in the middle of the hierarchy are less pronounced.

Li and his colleagues (2003) report that different social classes vary in the types of social capital they draw on. They applied the four-way Goldthorpe class schema which distinguishes the service class; the petty bourgeoisie; the intermediate class; and the working class (Goldthorpe 1987). The results indicated that working class more likely has higher levels of neighborhood attachment and middle class tends to have higher levels of social connections and civic participation. With regard to SWB, no direct effects of social class on overall satisfaction with life are discovered. But those in higher class positions tend to be more satisfied holding constant all other factors in the study. The service class and the petty bourgeoisie with strong neighborhood ties hold higher level of subjective health. People in professional and managerial positions (the service class), on average, hold higher level of satisfaction with work.

Moreover, they report “a differential class effect via levels of social connections on the degree to which people perceive their overall satisfaction with life” (Li, Pickles and Savage 2003: 15). That is, social network only benefited the service class when it comes to overall satisfaction. It suggests that professionals and managers (the service class) not only have more favorable socio-cultural and economic resources, they also
have higher capacity to use social connections to enhance their SWB.

2.4.3 Social anomie

Social anomie is a classic concept of sociological research commonly used to describe a state of lack of norms and social regulation in a society. The rise of anomie in China and other post-communist nations might be expected by Durkheim and other anomie theorists. Emile Durkheim developed the concept of anomie for understanding the repercussions of rapid social change on social integration and social stability. In his famous book, *The Division of Labor in Society* (1997/1893), Durkheim distinguished mechanical solidarity from organic solidarity. He refers to the consciences in humans, incorporating both the collective and the individual, and argues that the conflict between them is the main cause of social change. The transformation from segmented traditional societies to modern societies, thus, can be explained in light of a transitional solidarity from mechanical solidarity to organic solidarity. He insists that social evolution does not originate in the psychological constitution of the human. Instead, he emphasizes that “the determining cause of a social fact should be sought among the social facts preceding it and not among the states of the individual consciousness” (Durkheim 1982/1895: 134). Social phenomenon, such as happiness, must be explained by the response of the human conscience to the social structure.

Anomie, in Durkheim’s seminal study on suicide (Durkheim 1997/1897), denotes a condition or malaise in individuals, characterized by an absence or diminution of social norms which regulate individuals’ behavior, and an associated feeling of alienation and purposelessness. The increased complexity and the division of labor in modern industrial societies result in social isolation and anomie. Anomic attitudes and anomie behaviors, as phenomena accompanying significant changes in its economic
fortunes, whether for good or for worse, would reduce happiness and increase suicide (Durkheim 1997/1897):

“In the case of economic disasters, indeed, something like a declassification occurs which suddenly casts certain individuals into a lower state than their previous one...But society cannot adjust them instantaneously to this new life and teach them to practice the increased self-repression to which they are unaccustomed. So they are not adjusted to the condition forced on them, and its very prospect is intolerable.” (Durkheim 1997/1897: 252)

Durkheim’s earlier formulation of anomie also focuses on the key concepts of aspirations and restraint: “No living being can be happy or even exist unless his needs are sufficiently proportioned to his means” (Durkheim 1997/1897: 246). How can human being keep the equilibrium between the aspiration and the means? Healthy societies set limits on the goals that individuals pursue. These limits are set so that individuals have a reasonable chance of achieving their goals. However, individuals are inherently unable to set limits on their aspirations. Individuals restrain their desires only in response to a limit they recognized as just, which means that only some regulative force exterior to man can limit infinite aspirations:

“Discipline promotes a preference for the customary, and it imposes restrictions. It regularizes and it constrains. It answers to whatever is recurrent and enduring in men’s relationships with one another” (Durkheim 1961/1925: 47).

Therefore, in the course of rapid social change, society may be in danger of losing control over people’s goals. When it happens, goals become unlimited or unattainable.

Anomie is rare when the interdependent social groups are well aware of “of the need which they have of one-another, and consequently they have an active and permanent feeling of mutual dependence.” (1972: 184). In contrast, anomie spreads if social inequalities grow too large, social injustices and unfair distributions of
opportunities occur or if a growing polarization of social stratification makes moral integration different in the context of rapid social change, and more generally, if there is a significant discrepancy between the ideological theories and values commonly professed and what was actually achievable.

Durkheim maintains that major social changes may undermine the normative basis (the legitimacy) of a certain social order (e.g. by enhancing social inequality). The individuals no longer feel committed to valid values and norms, they no longer know what is “possible” and what is “just right”, and they act in light of egoistic selfish impulses. For instance, in economic development, “an abrupt growth of power and wealth”, according to Durkheim (1997/1897), alters the standard which previously regulated men’s needs and aspirations. Consequently, aspirations become infinite and demand far beyond the increased material resources. Anomie spreads:

“The scale is upset; but a new scale cannot be immediately improvised. Time is required for the public conscience to reclassify men and thing. So long as the social forces thus freed have not regained equilibrium, their respective values are unknown and so all regulation is lacking for a time. The limits are unknown between the possible and the impossible, what is just and what is unjust, legitimate claims and hopes and those which are immoderate. Consequently, there is no restraint upon aspirations...At the very moment when traditional rules have lost their authority, the richer prize offered these appetites stimulates them and makes them more exigent and impatient of control. The state of deregulation or anomie is thus further heightened by passion being less disciplined, precisely when they need more disciplining.” (Durkheim 1997/1897: 253)

In his well-known paper “Social Structure and Anomie”, Robert King Merton (1938) considers anomie as the discrepancy between cultural prescribed goals and the available legitimate means to achieve those goals. In other words, an individual would suffer from anomie when he or she is unable to legitimately attain the common goals
of a specific society due to institutional limitations in society. Consequently, the
individual would exhibit deviant behavior. Further, the anomic situation leads to a
feeling of powerlessness, namely low predictability in behavior, and may lead to the
belief in luck: “...in such a society [a society suffering from anomie] people tend to
put stress on mysticism: the workings of Fortune, Chance, Luck” (Merton, 1938, p.
138). Chinese people have believed that individual economic success is one of the
most important social values as the society is transforming to capitalism. There may
be a discrepancy between cultural goals and structural realities. Thus, Merton’s ideas
can be also relevant to understand China’s puzzle.

Merton’s analytical model has two fundamental components: a cultural structure
and a social structure Merton’s Anomie is further broken down into macroside (when
society fails to set clear norms concerning how to achieve certain goals, and cannot
thereby regulate members of society), and microside, more commonly referred to as
strain (the breakdown in society followed by the attendant rise in deviance among
members of society as a result of perceived pressure to commit crimes). According to
his theory, anomie spreads when the strain (as defined by having a goal to achieve
something) increases, and the ability to meet that strain decreases. In Merton's theory,
"strain" is derived from social comparison (Merton and Kitt 1950), which is discussed
in previous section. Therefore, in this part, I mainly focus on other components of
anomie.

In very different ways, Durkheim and Merton have contributed their attention to
the anomic results of economic growth: for Durkheim, this meant the dissolution or
deterioration of social norms associated with the growth. That is, rapid social changes
in the wake of fundamental economic transformations easily overwhelm people’s
mental capacities and produce disorientation, depression, and anomie attitudes that
lead to a diminution of overall happiness; for Merton, anomie is not the consequence
of lacking highly valued goads by legitimate means. There are structural barriers for
certain social groups to reach the generally accepted goals and values. Social mobility,
mainly for the lower strata, is hampered. This causes frustration or strain. For transitional society, capitalistic and meritocratic norms might contribute to anomic attitudes and mass depression, given the permanent pressure and stress that economic competition and a social obsession with achievements put on people. Nevertheless, these two understandings of anomie are not mutually exclusive but can also be seen as complementary.

Many studies empirically have found evidence to validate such concerns. The major contributions of Seeman (1959) and Dean (1961) are to operationalize anomie with some individual dispositions and attitudes like social isolation, meaninglessness, normlessness, self-estrangement and powerlessness. Middleton (1963) includes in his anomie scale the items powerlessness, meaninglessness, normlessness, cultural estrangement and social estrangement.

From 1978 onwards, the Middleton's scale has been included almost without changes in the German Welfare Survey which measures aiming at measuring anomie as aspects of quality of life (Glatzer and Zapf, 1984). Based on the data from the German Welfare Survey, Glatzer and Bös (1998) examine the influence of anomie attitudes as the negative aspects of subjective quality of life. They followed Seeman’s definition and operationalized anomie with four indicators: powerlessness, meaninglessness, normlessness, and estrangement from work and social estrangement. They find considerable stability with low anomie values before 1990 but an increase in anomie indicators after 1990 in East Germany. Especially, the old suffer far more from feelings of loneliness, meaninglessness, and powerlessness, but with less normlessness than the young. The poor suffer from much more anomie than the rich. Based on the results of multivariate models, they conclude that “rapid social change, coupled no less with an economic crisis, leads to a higher level of anomie” (Glatzer and Bös 1998: 193).

Anomie has been found to hold bearing on mental health such as xenophobia, depression, and uncertainties caused by fundamental economic and social
changes in Eastern Europe and other transitional societies. Extensive research concerning those transitional societies uncover that the collapse of the communist "Eastern bloc" are raising strains at the societal level as well as individual level (Juchler, 2000 and Genoy, 2000).

“Instead of a rapid enlargement of the pool of choices, the real rearrange of opportunities has become more limited for the majority of Eastern Europeans. Instead of the expected increase in living standards, economic insecurity and deprivation dominate every day life. (...) Instead of conditions for a higher quality sustained personal development, the problems of recent years have led, in many cases, to destruction of human capital.” (Genov 2000: 542).

Oegerli and Suter (2001) compare the different effects of relative deprivation on anomie between West and East Europe. The results indicate that Durkheim’s anomie holds significant explanatory power for Eastern European countries which underwent fundamental changes of the political and economic system. In contrast, Mertonian anomie which is derived from the shortage of legal means for reaching cultural goal is more applicable in West Europe. Huschka and Mau (2006) discover that anomie widespread in the transitional society of South Africa. The levels of feelings of disorientation, powerlessness, and estrangement are much higher than those of European countries. They additionally identified that social-economic inequality, which often go along with race, accounts for the rise in anomie.

2.4.4 Social trust

Recently, social capital has become very popular in the academic fields. The most commonly used definition originates from Robert Putnam is concisely defined as
follows: “Social capital, in short, refers to social connections and the attendant norms and trust” (Putnam 1995: 664-665). According to Paxton (1999: 93), social capital generally has two components – “objective associations between individuals” and “a subjective type of tie”. In this thesis, I focus on the “subjective type of tie” due to the limitation of present data.

The subjective type of tie consists of trust, reciprocity and certain kinds of positive emotions (Paxton 1999: 93). Social trust refers to “socially learned and socially confirmed expectations that people have of each other, of the organizations and institutions in which they live, and of the natural and moral social orders, that set the fundamental understandings for their lives” (Barber 1983: 165). According to the ordinary-language definition, trust refers to “confidence in or reliance on some quality or attribute of person or thing”.¹⁰ Coleman (1990: 99) consideres trust as a “bet”. Based on rational choice theory, he maintain that “a rational actor will place trust...if the ratio of the chance of gain to the chance of loss is greater than the ratio of the amount of the potential loss to the amount of the potential gain” (Coleman 1990: 104).

In this study, we investigate two types of trust – interpersonal trust and trust in institutions. As many have pointed out, these two forms of trust are conceptually distinct and not necessarily related (Newton 2001; Putnam 2000). Responses to questions concerning trust, whether they trust in other people or in institutions, reflect how people evaluate the trustworthiness of the society they live in.

1. Interpersonal trust

Interpersonal trust refers to confidence or belief in individuals under conditions of risk (Coleman 1990: 104). A large number of trust scales have been developed for measuring interpersonal trust. For example, the Trust Inventory (Couch, Adams and Jones 1996), a 40-item questionnaire developed by drawing upon a number of

previous trust scales, which is designed to measure generalized, network and
relational (or partner) trust. Another is the Interpersonal Mistrust-Trust Measure
(IMTM) (Omodei and McLennan 2000), which measures interpersonal trust as a
negative orientation against others, a tendency to view others as mean, selfish or
unreliable. This measure consists of items describing perceptions of specific
hypothetical interpersonal situations, rather than asking respondents to describe their
own general behaviour.

Besides, a common approach used in large-scale social surveys, such as GSS
survey and World Values Surveys, is to ask people the questions as follows:
“Generally speaking, would you say that most people can be trusted, or that you can’t
be too careful in dealing with people?” “Do you think most people would try to take
advantage of you if they got a chance, or would they try to be fair?” Various studies
have used data relating to the questions in this survey relating to trust, in attempts to
obtain a generalized view of the general pattern of trust in a society.

Interpersonal trust to the extent that trust is matched by trustworthy behaviour in
others, reflects the positive and reciprocal emotions among individuals and groups
and is able to make many aspects of life more enjoyable and more productive. Thus,
extensive research displays that trust has an important impact on people’s
psychological well-being. For example, Li, Pickles and Savage (2003) find that
having a trusting attitude significantly impacted on life satisfaction. Those who report
trusting in others in 1998 were significantly more likely to report greater satisfaction
with life in the following wave. Other things being equal, having a trusting attitude
also has a significant and positive effect on health.

However, the relationship between interpersonal trust and emotional health is
unclear. Trusting friends is negatively associated with emotional health. That is, the
more trust in friends they were instead of newspaper or television, the worse their
emotional health is. He argues that the importance of the relation between trust and
individual well-being is muted by the fact that most Russians are distrustful. Instead,
he uncover that individual emotional health is more determined by income and subjective social status.

2. Trust in institutions

Trust in institutions can be conceived of as a general evaluative orientation towards institutions based upon citizens’ normative expectations of institutions’ performance and effectiveness (Miller 1974). It can be viewed as the expected utility of institutions performing satisfactorily (Mishler and Rose 2001). In other word, institution trust reflects people’s assessment of how well institutions are doing compared with how well they think the institutions should be doing (Orren 1997). A decline in trust can thus be considered as resulting from a perceived gap between the ideals and the realities of the political process by which the country is run (Hibbing and Theiss-Morse 2002).

Trust in institutions can be measured by the questions as follows: “What kinds of institutions are you confident in?” Responses have several options including government, parliament, trade unions, the police, political parties and the media (e.g., Inglehart 2000b). Many scholars prefer to a single-item indicator of institutional trust in their studies. For example, Secor and O’loughlint (2005) use the trust in government as the indicator of political trust. Some other researchers choose a sum of several indicators to represent institutional trust. Brockman et al. (2008) select a sum of the trust in government and the trust in parliamentary as the indicator of institutional trust. Another study applies an index derived from four items to measure political trust in Canada (Belanger and Nadeau 2005). Paxton (1999) model institutional trust as a confirmatory factor analysis with four items (trust in religion; trust in education, trust in legislature and trust in executive, see Figure 2.2).

There are two alternative explanations for the determinant of institutional trust. Inglehart (1997) argues that institutional trust is embedded in culture and is learned early in life. Institutional theories on the other hand insist that it is endogenous and
influenced by social environment and institutional operation. Rose, Mishler and Haerpfer (1997) examine several possible sources of distrust in post-communist Eastern Europe, including socialization during school years, the legacy of communism, political and economic performance and national traditions/culture, using data from the New Democracies Barometer. They find that sources of trust include an individual’s environment (rural dwellers with more contact with neighbors and friends are more trustful) and economic performance, while education and national culture had no bearing on social trust. They finally speculate that in the future, the new regimes that first complete the transition to democracy should be the ones to demonstrate more trustworthiness as skeptical citizens more and more positive experiences which eventually reduce their social distrust.

![Figure 2.2 Model of institutional trust provided by Paxton](image)

Note: Adapted from Paxton (1999: 105).

A clear relationship between social trust and subjective well-being in the West has been identified by many scholars and studies intensively. Several scholars have
since taken the theoretical leap of applying social trust to non-consolidated nations. Nowotny (2002) maintains that the low level of social capital, most importantly trust (measured by “trust in police” and “trust in justice system”), results in slow democratic transitions in Eastern European countries.

Lipset and Schneider (1987) study the data from the annual General Social Surveys offered by National Opinion Research Center and find that people who report higher SWB scored higher on the confidence scale. That is, in the group with very low level of satisfaction, only 24% scored “high” on the political confidence index. The percentage is 25 for the group of “low” satisfaction, 30 for the group in the middle category, 34 for the group of high satisfaction, and 41 among those with “very high” satisfaction. Specifically, those who described themselves “pretty well satisfied” with their financial situation scored higher on the confidence scale (36%), relative to those who were “more or less satisfied” (29%) and those who were “not satisfied at all” (26%). Obviously, trust in institutions rose steadily as satisfaction increased.

Hudson (2006) examines the role of institutions in determining subjective well-being through their intermediary impact upon social trust, using data from Eurobarometer covering 15 European nations prior to its expansion in 2004. First, Hudson identifies sources of institutional trust, indicating that trust is not simply learned at an early age. The unemployed, on average, held lower levels of trust in government, the central bank, police and the law. Different social groups in terms of education and income also show diverse levels of trust in public institutions: trust significantly increases with household income and educational level. Age impacts on institutional trust. It had U-shaped relationships with the EU, the UN, the union, big business, and voluntary organizations, with the estimated turning points ranging between 44-56 years. For most other institutions trust went up with age. With respect to subjective well-being, trust in some institutions like the European Central Bank, the EU, national government, the law and the UN all add positive contribution to life satisfaction.
Rose, Mishler and Haerpfer (1997) examined several possible sources of social distrust in post-communist Eastern Europe, including socialization during school years, the legacy of communism, political and economic performance and national traditions/culture, using data from the New Democracies Barometer. They find that sources of trust include an individual’s environment (rural dwellers with more contact with neighbors and friends are more trustful) and economic performance, while education and national culture had no bearing on social trust. They finally speculate that in the future, the new regimes that first complete the transition to democracy should be the ones to demonstrate more trustworthiness as skeptical citizens more and more positive experiences which eventually reduce their social distrust.

In Russia, Rose (2000) goes on to study post-communist interpersonal trust more in-depth with a specially designed survey. He believes that social capital, including trust and social ties, does make an independent contribution to individual’s well being. He measures social capital with the involvement or exclusion from formal and informal networks, friends to rely on when ill, control over one’s life, and interpersonal trust. Rose provides evidence for strong informal networks between friends, relatives, and other face-to-face groups. By contrast, the trusts in social and political life hold weak influence on people feelings of their lives in Russia. Rose attributes the weak effect to Russian’s own coping strategies. That is, civic life and trust in political institutions were historically weak in Russia. Thus, Russians tend to place stronger reliance on informal social capital than on the formal institutions of the state to cope with problems after the shock therapy.

Rose concludes that factors such as formal or informal networks, social support which is based on the reciprocal trust and participation in the social organizations or non-government institutions can help individuals to promote emotional and physical health by providing companionship, facilitating access to health care, and diffusing information and norms related with healthy behaviors.

2.4.5 Conclusion
The literature provides ample empirical evidence that SWB is a reflection of social environment in spite of the large variation explained by personality and other psychological factors. Firstly, although demographic factors seem to explain only small part of variance in SWB, they mediate many important effects on SWB and should not be ignored:

- Gender difference in SWB is trivial. But men and women usually have different personalities, coping strategies and goals which are highly related to SWB.

- Age is U-shaped related to SWB in recent studies, although the differences in SWB among age cohorts are small or non-existing after controlling for other variables. Age is also an important moderator of economic, social, and human capital associated with SWB.

- Educational level, as an indicator of human capital, is correlated to aspiration, social class, income, and occupation. Thus, the partial impact of education on SWB is small or insignificant.

- Marriage is able to significantly improve people’s SWB. In addition, divorce and widowhood can reduce people’s SWB in the long term by altering the baseline of SWB.

Secondly, social class is associated with people’s feelings, although the strength of the relationship is moderate. The empirical studies concerning social class and SWB are conduct in the western world where the impact of social class declines due to a fragmentation within social classes and the emergence of new social differences (Clark and Lipset 1991). Thus, the moderate effect of social class might not be applied to the transitional societies like China. In transitional countries, social differences and social inequality have been deteriorating since the introduction of free market and privatization. Thus, social class is also a potential predictor for SWB in China. In
addition, social status is crucial to goals, norms, resources, and life chances. Thus, it is necessary to examine the effect of social class when I explain the declining SWB in China.

Thirdly, social anomie refers to social disruption and social deregulation which destroy the quality of society. Durkheim insists that anomie will be prevailing even in economic boom. Extensive empirical research reveals that social anomie spreads with rapid social change and can cause negative affection and reduce people’s SWB. Since China experienced dramatic economic growth as well as social transition, social anomie could be an importance factor accounting for the declining SWB in China.

Fourthly, social trust reflects the relation among individuals in a society or in a community. The research finds both interpersonal and institutional trusts are positively associated with SWB. Meanwhile, the study given by Rose (2000) reveal that people tend to distrust in Russia, a transitional society. Thus, it is plausible assumption that the transition could raise distrust that is negatively associated to SWB.

To sum up, we should not ignore the important effects of demographic and social factors when explaining the change in SWB. Rather, some hidden factors behind personality and economic indicators are crucial to people’s feelings of current lives. When increased income leads to better consumption and thus higher utility, negative side-effects of economic growth neutralize that upward tendency. Such side-effects could include relative deprivation, social anomie, and social distrust. With respect to the China’s puzzle, the high economic growth might bring with it too high a rate of social change. It is plausible to assume that the negative side-effects, accompanying with China’s economic boom, could contribute to the decline in SWB. Therefore in Chapter 3, I present a brief review on China’s economic transition and social change, and accordingly propose several hypotheses to link the reality to the assumption.
Chapter 3 China in Transition

Relying on the previous chapter, this chapter takes the research a step further by investigating China’s transition and its influence on SWB. A brief introduction of China’s economic transition is presented and then social consequences are discussed. Based on the socio-economic changes occurring to Chinese society, several hypotheses for explaining the declining SWB are proposed. Firstly, the newly established free-market deteriorated the distribution of economic resources, on one hand, and on the other hand loosened limitations on material aspirations. Consequently, relative deprivation is about to increase, which has been found negatively associated with SWB. Second, like economic inequality, social polarization also could reduce the average level of SWB in China. Thirdly, norms become unclear, and social regulation lessens during rapid social change. Therefore, anomie theory, established by Emile Durkheim and then advocated by Robert Merton, is applied to explain the decline in SWB. Finally, social trust, as Putman (2000) expects, could be declining in the transition and thus resulted in losing SWB.

3.1 China’s economic transition

With the disappearance of classes in possession of the means of production and wealth, hierarchy in terms of political position became the sole social estate system in Mao’s era. Influenced by the Soviet model, Chinese government placed high priority on the development of industry and accordingly underpriced agricultural products to induce an unequal exchange between the agricultural and industrial sectors after the
establishment of the People’s Republic of China in 1949. To maintain the artificial imbalance between rural and urban areas and maintain the unique social hierarchy, the state designed a system which blocked free mobility of resources between industry and agriculture and between rural and urban areas. In order to regulate population mobility, Chinese government established the *Hukou* (household registration) system in cities in 1951\(^\text{11}\) and extended it to the rural areas in 1955. Since then, the system tightly bound Chinese peasants to their “communities” in the countryside. Free migration from the countryside to cities was strictly prohibited. Since the government administrated economic activities and the distribution of goods in the command economy, illegal migration to cities hardly existed.

In cities, society was divided into two main groups: redistributors (cadres) and producers (workers) (e.g. 1989; Nee 1996; Nee 2000; Zhou 2000). In order to facilitate government’s control over urban labor resources, workers were closely attached to their work units. Work units took charge of distributing a wide range of resources, including not only production resources, but also economic and material resources needed for daily living, such as wages, housing, access to services (e.g., schools, nurseries, and health care), scarce food, pension, and even marriage documents (e.g. Bian and Logan 1996; Lin and Bian 1991; Wu 2002). Those who held high political positions (cadres) in the work units enjoyed the privilege of non-wage compensations, such as housing, subsidies for traffic, the health and pension plans (Szelenyi 1978; Szelenyi 1988).

Another characteristic of Mao’s society was its “institutionalized suppression of individuals’ economic motivation” (Liu 2005: 617). Socialist wage structures included highly compressed earnings profiles, workers forced to take jobs assigned by the government, and limited earnings benefits for being more productive. Egalitarianism dominated in distribution, and wages were usually kept at an average subsistence level

\(^{11}\) Ministry of Public Security, *Chengshi hukou guanli zanxing tiaoli (Interim Regulations on Urban Household Administration)*, issued on July 16, 1951. Also see People’s Daily, July 16, 1951.
without much variation among workers regardless of one’s performance in work, while job security was guaranteed for a lifetime. “To be poor is glorious” was the dominating value which was promoted by the communist party. Any individualistic concern with one's own personal benefits was abhorred in the political campaigns to “cut all capitalist tails.” Common goals, thus, had nothing to do with any individual’s economic success, and thus, economic aspirations were severely limited.

Since Mao’s death in 1976, this constraining situation has been much released. The Third Plenum of the Eleventh Chinese Communist Party Congress held in December 1978 officially switched the Party’s focus to “economic development”, indicating the beginning of the economic transition. According to Qian (1999), China’s transition can be divided into two stages: the first stage from 1978 to 1993 and the second since 1994. At the first stage, agricultural reform achieved great success. The introduction of “household responsibility system” improved agricultural productivity a lot. By 1984, almost all of rural household had adopted the system nationwide. In the “Central Committee Circular on Agricultural Work” of January 1, 1984, peasants were allowed to diversify their lines of production and invest in or buy shares of all types of enterprises. Private economy and rural enterprises in the form of Township and Village Enterprises (TVEs) grew up rapidly in the countryside (see Table 3.1). In most of the 1980s, the growth rate of TVEs far exceeded that of state-owned economy (see Table 3.2).

In contrast, state-owned enterprise (SOE) reform moved on very slowly at the beginning of the reform due to the complexity of industrial administration (Zhou, 1984). In 1987, “contract responsibility system” was created in the purpose of motivating managers of SOEs. This system was widely accepted in that it benefited all parties-enterprises, local governments and the central government (Qian 1999). The SOEs reforms broke the rigid planned economy and brought economic liberalization in China. The percentage of the total industrial output value occupied by SOE fell from 76.0% to 34.0% between 1980 and 1990, while that of collective
industries increased from 23.0% to 36.6%. In other word, the percentage of non-public-owned industries rose from 1.0% to 29.4% in 10 years. From Table 3.2 one can see that state-owned and collective enterprises dominated the industrial output in the 1980s, while individual-owned and other industries were small.

Table 3.1 Basic statistics of China’s township and village enterprises, 1978-1995

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Workers (Million)</th>
<th>Gross Output Current (Million)</th>
<th>Annual Growth (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1978</td>
<td>1.52</td>
<td>28.27</td>
<td>–</td>
</tr>
<tr>
<td>1980</td>
<td>1.43</td>
<td>30.0</td>
<td>–</td>
</tr>
<tr>
<td>1984</td>
<td>6.07</td>
<td>52.08</td>
<td>–</td>
</tr>
<tr>
<td>1985</td>
<td>12.23</td>
<td>69.79</td>
<td>59.5</td>
</tr>
<tr>
<td>1986</td>
<td>15.15</td>
<td>79.37</td>
<td>29.8</td>
</tr>
<tr>
<td>1987</td>
<td>17.5</td>
<td>88.05</td>
<td>34.5</td>
</tr>
<tr>
<td>1988</td>
<td>18.88</td>
<td>95.45</td>
<td>36.4</td>
</tr>
<tr>
<td>1989</td>
<td>18.68</td>
<td>93.66</td>
<td>14.3</td>
</tr>
<tr>
<td>1990</td>
<td>18.5</td>
<td>92.65</td>
<td>13.9</td>
</tr>
<tr>
<td>1991</td>
<td>19.09</td>
<td>96.09</td>
<td>37.3</td>
</tr>
<tr>
<td>1992</td>
<td>20.79</td>
<td>105.81</td>
<td>54.7</td>
</tr>
<tr>
<td>1993</td>
<td>24.53</td>
<td>123.45</td>
<td>75.5</td>
</tr>
<tr>
<td>1994</td>
<td>24.95</td>
<td>120.18</td>
<td>35.0</td>
</tr>
<tr>
<td>1995</td>
<td>22.03</td>
<td>128.6</td>
<td>61.8</td>
</tr>
</tbody>
</table>


To promote economic reform in cities and encourage more Chinese to take on free-market values, Deng Xiaoping introduced the slogans of “let some get rich first” and “development is the real discipline” during his southern trip in the spring of 1992. In September 1992, the Communist Party, for the first time, endorsed the “socialist market economy” as a goal of economic reform. One year later, the Party came up with the “Decision on Issues Concerning the Establishment of a Socialist Market Economic Structure” which made four major advances in the areas of reform strategy, a rule-based system, building market-supporting institutions, and property rights and
ownership respectively (Qian 1999). After the “Decision”, a series of radical reforms were launched. The economic reforms changed many of the hallmarks of the socialist economy such as public ownership, state owned enterprises, fiscal systems of centralized collecting and sharing, self-sufficient type’s economic management and caused widespread economic change in terms of privatization, financial movement based on competition, the emergence of new profit making entities, change in the structure of industry and mobility in labor market (Qian 1999).

Table 3.2 Gross output value of industry by ownership (1985-1995)

<table>
<thead>
<tr>
<th>Year</th>
<th>State-Owned</th>
<th>Collective-Owned</th>
<th>Individual-Owned</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>1985</td>
<td>6302.12</td>
<td>3117.19</td>
<td>179.75</td>
<td>117.41</td>
</tr>
<tr>
<td>1986</td>
<td>6971.12</td>
<td>3751.54</td>
<td>308.54</td>
<td>163.06</td>
</tr>
<tr>
<td>1987</td>
<td>8250.09</td>
<td>4781.74</td>
<td>502.39</td>
<td>278.77</td>
</tr>
<tr>
<td>1988</td>
<td>10351.28</td>
<td>6587.49</td>
<td>790.49</td>
<td>495.32</td>
</tr>
<tr>
<td>1989</td>
<td>12342.91</td>
<td>7858.05</td>
<td>1057.66</td>
<td>758.44</td>
</tr>
<tr>
<td>1990</td>
<td>13063.75</td>
<td>8522.73</td>
<td>1290.3</td>
<td>1047.56</td>
</tr>
<tr>
<td>1991</td>
<td>14954.58</td>
<td>10084.75</td>
<td>1609.1</td>
<td>1599.58</td>
</tr>
<tr>
<td>1992</td>
<td>17824.15</td>
<td>14101.19</td>
<td>2506.8</td>
<td>2633.58</td>
</tr>
<tr>
<td>1993</td>
<td>22724.67</td>
<td>20213.21</td>
<td>4402.05</td>
<td>5352.06</td>
</tr>
<tr>
<td>1994</td>
<td>26200.84</td>
<td>31434.04</td>
<td>8853.23</td>
<td>10421.35</td>
</tr>
<tr>
<td>1995</td>
<td>31219.66</td>
<td>33622.64</td>
<td>11820.57</td>
<td>15230.87</td>
</tr>
</tbody>
</table>


Since 1992, China’s economy has experienced a long-term economic growth – the GDP per capita rose from 2287 to 7084 between 1992 and 2000 (See Figure 1.1). The annual growth rate of GDP per capita even reached the highest point (33.5 %) in
1994 (see Figure 3.1). Nevertheless, it started to be overheating since 1992 – inflation rate increased from 3.1 to 24.1% between 1990 and 1994. The state, thus, had to adopt a set of strong policies to cool down the economy. In addition, Asian financial crisis also push China’s economy back to normal track. By the end of 1996, the economy “landed softly”, with growth rate going under 10%, and further down to 4.2 in 1998.

**Figure 3.1 Growth of GDP per capita and Inflation rate (1989-2005)**

![Graph showing growth of GDP per capita and inflation rate (1989-2005)](image)


Privatization of SOEs began to occur on a large scale after Deng’s southern trip in 1992. In Table 3.2, one can find that individual-owned industry and other industry like joint venture enterprises developed much faster than state-owned and collective industry after 1992. In 1985, state industries accounted for 64.9% of the total industrial output. But in 1995, state industries contributed only 34%. By the end of 1996, more than 50% of small SOEs had been privatized. Sensitive to market opportunities these newly-emerged private enterprises soon expanded. Meanwhile, many large or middle SOEs went bankrupt due to poor management, inefficiency and
the shortage of market competition. The first bankruptcy took place in 1986 when the “bankruptcy law” was introduced in China. In 1995, the central government accelerated the reform of SOEs. According to SASAC (State-owned Assets Supervision and Administration Commission), 7,798 SOEs were declared bankrupt between 1995 and 2002\textsuperscript{12}.

While thousands of state-own firms went bankrupt or were closed, millions of workers and staff were laid off or unemployed. There are two major types of unemployment: forced leaves initiated by the administration of enterprises, and laid-off (with no paid or incomplete paid). The disguised form of unemployment makes it difficult to estimate the real unemployment rates in the transition (See Table 3.3). The scale of disguised unemployment exceeds the unemployed population officially registered by employment agencies\textsuperscript{13}. Taking both urban unemployment and those laid-off in rural areas and unable to find work into account, total unemployment would seem to reach around 8 percent in 1998. At the end of 2000 the number of people who had been laid-off and were not able to find more work totaled around 7 million. In Gordon Chan’s (2002) “The Coming Collapse of China”, he maintains that the actual unemployment figure was six times larger than official data shows. For this analysis, it is difficult to distinguish the unemployed and the laid-off by using self-report employment status. The workers with incomplete paid or laid-off still considered themselves being employed, though their financial situations were no better than the unemployed. Furthermore, in some cases, the rural workers and those with incomplete paid were faced with more serious surviving problems due to the lack of social security. Thus, in the analysis, I have not to use employment status as a predictor for SWB.

\textsuperscript{13} Official urban unemployment and official rate of urban unemployment do not include the number of laid-off employees in state enterprises and 150 million surplus rural labors. In China, laid-off employees are still regarded as the formal employees of their enterprise.
Table 3.3 Urban unemployment in China (1990-1998)

<table>
<thead>
<tr>
<th>Year</th>
<th>Official Urban Unemployment (10,000)</th>
<th>Official Rate of Unemployment (%)</th>
<th>Laid-off Employees (10,000)</th>
<th>Rate of Total Unemployment (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>383.2</td>
<td>2.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1991</td>
<td>352.2</td>
<td>2.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1992</td>
<td>363.9</td>
<td>2.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1993</td>
<td>420.1</td>
<td>2.6</td>
<td>300</td>
<td>3.7</td>
</tr>
<tr>
<td>1994</td>
<td>476.4</td>
<td>2.8</td>
<td>360</td>
<td>4.1</td>
</tr>
<tr>
<td>1995</td>
<td>519.6</td>
<td>2.9</td>
<td>564</td>
<td>4.7</td>
</tr>
<tr>
<td>1996</td>
<td>552.8</td>
<td>3.0</td>
<td>891.6</td>
<td>5.9</td>
</tr>
<tr>
<td>1997</td>
<td>576.8</td>
<td>3.1</td>
<td>1150</td>
<td>6.9</td>
</tr>
<tr>
<td>1998</td>
<td>571.0</td>
<td>3.1</td>
<td>1550</td>
<td>8.0</td>
</tr>
</tbody>
</table>


3.2 China’s society in transition

3.2.1 Economic inequality

The great transition indeed changed the pattern of China’s social profile and social structure in the past three decades. Above all, the old system of economic distribution was broken nationwide. Before the reform, income was highly compressed at a rather low level due to the egalitarian policy and the poor financial situation of the country. Income and other material resources were usually distributed in terms of political hierarchy. Increase in salary was highly determined by political and occupational status instead of performance at work. Economic inequality was
rather small within given units and industry, although it was salient between rural and urban areas and between different industries (Zhou, 2000). At the beginning of the transition, the reformation on agriculture mainly benefited farmers and TVEs, diminishing economic inequality between rural and urban areas (Sun 2002).

Nevertheless, the inequality started to deteriorate when more radical reformations were adopted in cities in the end of the 1980s. Since then, the market incentive system broke socialist egalitarianism and encouraged some people to become well-off first. A sharp cross-sectional divergence in incomes and living conditions within and between the regions of China has occurred in the 1990s. In Figure 3.2, one can see that the economic reformation in the countryside worsened rural income inequality, with Gini coefficient increasing from 0.27 to 0.32 between 1985 and 1991. The urban Gini coefficient fluctuated around 0.20 in the 1980s and then rose from 0.18 to 0.27 between 1991 and 2001. At the national level, the early reforms did not significantly alter the level of Gini coefficient in the 1980s. However, given no difference between the rural and urban cost of living, the national income distribution was worsened in the 1990s, with Gini coefficient rising from 0.32 to 0.42 between 1990 and 2001. Thus, it is worthy to pay special attention to the second stage of transition in order to discover the impact of worsening inequality.

In the 1980s, the overall inequality did not significantly rise nationwide. Rural and urban residents respectively compare their situations with the peers close to them. Thus, the small diversity of income equality in certain groups and regions would keep relative deprivation at a low level. That is, unlike what Easterlin (2003), Diener and Eswas-Diener (2002) expect, no matter how much people earn, they would feel little depressed in spite of the relatively lower levels of salary.
The increased Gini coefficients illustrate the rising number of “frustrated achievers”. The accumulation of wealth to the minority resulted that the majority of Chinese population suffered less relative income in the 1990s. This is, in particular, true for the poor, since the average income has completely moved far beyond. In other words, many people found themselves worse off in the emerging market economy. The unequal distribution of the economic gains constitutes a fertile ground for rising feelings of relative deprivation – a fact that is likely to be aggravated by the conspicuous consumption of the new rich.

While the situation of the low class has been on the decrease, the rich have become much richer. Market benefits those with high human capital. Meanwhile, the incomplete institutional settings of the new market leave informal ways for those with high political capital to obtain a great amount of profits. People constantly find some of their peers such as relatives, friends, and colleagues got richer but their situation stood still. Although most of Chinese have earned more than before (Zhou 2000), the
upward comparison would make lower and middle income group feel less satisfied and more deprived. Because downward comparison and increase in absolute income are unable to prevalently increase SWB (Diener and Biswas-Diener 2002; Easterlin 2003; Graham and Pettinato 2002a; Graham and Pettinato 2002b), the high income group would get no improvement in SWB in the transition.


1b. High income group had no more SWB in 2000 than in 1990; but low income and middle income group had less SWB in 2000 than in 1990.

1c. Relative deprivation increased between 1990 and 2000.

1d. Relative deprivation had a negative effect on SWB.

Another example for relative deprivation is education. As an important indicator of human capital, education, no doubt, enables well educated people to live richer, more interesting, and more successful (e.g. Becker 1993). With respect to China, performance at work was neglected in the system of socialist redistribution, since resources were redistributed in terms of political hierarchy. Egalitarianism reduced the rewards to education and other kinds of human capital. Although higher educational level facilitated people to access to higher political position, the reduced direct returns on education usually were far below reasonable amount. Thus, the well educated might hold less SWB because their expectations were not fulfilled. In contrast, in a market economy human capital plays a more important role in determining one’s economic rewards (Becker 1964; Zhou 2001).
In a market economy where factors of production are allocated through competitive market transactions, it is argue that human capital plays an important role in determining one’s economic rewards (Becker 1964). Elite groups benefited from the growth of income and became the major part of the high income group. The gap between expectations and real rewards diminished. After the urban reform, a trend of increasing inequality appeared, as indicated by the increasing importance of human capital and individual competence. Therefore, I would find positive effect of education on SWB.

**Hypothesis 2. Education had negative effect on SWB in 1990, but positive impact on SWB in 2000.**

### 3.2.2 Social polarization

Social class reflects one’s position in the society. In command economy, the hierarchy in order of political power was the sole social estate system and society was accordingly divided into three classes: cadres, workers and farmers. Social differences within the groups were smaller than those between them. Political promotion was the only approach to higher social status before the transition. Social mobility between these three groups was rare and highly controlled by government.

With the deterioration of economic inequality, social structure has dramatically changed by the massive transition to market-based economy, making social stratification multiplied in terms of wealth, political power and social prestige rather than political hierarchy alone (Li 2002a; Nee 1989). The transition has expanded socioeconomic inequality and differentiation across China. Chinese people, who
experienced a socialist revolution in the past, witnessed the dissolution of this
Communism. Market power opened alternative channels to upward social mobility.
People like owners of private enterprises have more opportunities to promote their
status. Many private entrepreneurs were given certain administrative positions in
central and local governments. Some social groups with high social prestige and great
power, such as intellectuals and cadres, had less income and wealth than they
expected in the early stage of transition, resulting in a psychological imbalance among
them at the beginning of economic reform (Li 2002a). With the development of
market economy, returns to human capital increased and the imbalance disappeared
(Nee 1996; Zhou 2000). Sun (2002) observed that wealth was rapidly re-accumulated
among a small group of people in the 1990s, resulting in the relative or absolute
expropriation of other large groups of society such as the unemployed and farmers.
Based on a nationwide survey with 11,000 cases, Lu (2002) identified 10 social
classes in contemporary Chinese society:

- Administrators
- Managers and executives
- Enterprise owners
- Professionals
- Foreman and middle officials
- Self-employed
- Waiters and salespersons
- Industrial workers
- Peasants
- Urban unemployed people

The minority at the top of social structure are administrators, managers and
executives, enterprise owners, professionals, famous singers, film stars, dancers, and
outstanding sportsmen. The new rich group mainly consists of young and middle aged
people (between 25 and 40). They quickly adopted western life style: 40% have
private autos, more than half have computer at home. 90% have dinner in restaurant at least once per week. About 20% have the membership of high-class clubs (golf or tennis) (Gu 2004). By contrast, laid-off workers, rural migrants, workers and staff of declining enterprise together make up the main body of low-income groups in the cities and towns of contemporary China, while poor peasants consist of the bottom of rural society (Sun 2002). Meanwhile, industrial workers, who had belonged to the middle class in command economy, fell into lower class in the transition. According to Lu and his colleagues, China’s social structure has changed from a compressed pyramid with three categories to an abnormal one with a tiny top but a big bottom (See Figure 3.3). Downward social mobility frustrates workers and the unemployed who fall into the lower class. Negative feelings like deprivation and dissatisfaction widespread among them. The society, thus, is faced with great risk in social unrest (Li 2002b).

**Figure 3.3 Patterns of China’s social stratification during transition**

![Diagram of social stratification](image)

Before the reform  
After the reform

Note: C, Cadres; W, workers; F, farmers; t, top class; m, middle class; w, working class; l, farmers and lower class.

In a word, only a handful of elites and entrepreneurs benefited massively from the boom, heading away from the vast majority of people whose lifestyles had deteriorated and subsequently experienced downward social mobility as a result of the
reforms. Thus, like the pattern of income groups, the differences in SWB in terms of social class would increase during the transition.

**Hypothesis:** 3a. Social status had weak impact on SWB in 1990 but strong positive impact in 2000.

3b. High social class had no more SWB in 2000 than in 1990; but low class and middle lower class had less SWB in 2000 than in 1990.

**3.2.3 Social anomie**

The tremendous economic reforms broke the tight social control and social regulation. Accordingly, the competitive-meritocratic values of capitalism emerged in the middle of a culture whose tradition emphasize conformity, collectivism, and social harmony. Next to these conflicting values, the rapid changes produced by the boom are likely to fuel social anomie because of the rise in social disruption and social deterioration without discipline (Wang 2002). The situation of public security has been worsening since 1978. Bakken (2005) considers crime as the “silent partner” of Chinese economic boom. Regardless of the changing official definitions of crime over the years and regardless of the political manipulation on the crime data, the increase in crime is noticeable. The numbers of criminal cases increased from 1 6210 000 to 4 718 000 between 1995 and 2004, with an annual growth rate of 14%. In particular, the grand larceny rates increased steadily between 1992 and 1999 at an average annual rate of 15% and the fraud rates, 9%. Furthermore, J. Liu (2005) find that economically motivated crime increased faster than less or non-economically motivated crimes in
China, using the official crime data between 1978 and 1999. Since 2000, the institutes of public security have investigated 277,000 cases of economic crimes with the arrests of 262,000 suspects and the retrieval of 67 billion Yuan (US$8.1 billion)\textsuperscript{14}.

The increased crime was linked to a deterioration of social regulation. In other word, social anomie spreads during the transition. Troyer (1989) report that Chinese government attributed increased crime to “evil influence from other countries” and to poor parenting and improper legal education. A case study in Guangzhou, the capital of Guangdong province, observes that a large number of urban criminals are poor, unemployed, lowly educated (Zhao 2007). The study finds that the motives of crime are largely derived from the psychological unbalance caused by economic inequality and unfair treatment.

In addition, economic reformation results in uncertainties and conflicts as well as opportunities. Thousands of state-owned enterprises bankrupt; millions of workers are unemployed or laid-off. Public Security Minister Zhou Yongkang claims that 3.76 million Chinese were involved in 74,000 demonstrations in 2004\textsuperscript{15}. The reasons for the uprisings mainly lie in pollution, illegal seizures of farmland, mine disasters, and clashes between workers and capitalists. In addition, even more farmers leave the countryside, hoping to find a better life in the big cities, which greatly strengthen competition in the urban labor market.

Such increased unsafety, uncertainties and conflicts would contribute to a rise in powerlessness. Powerlessness, according to Durkheim, indicates that individuals can not regulate their behaviors in response to the environment, and their aspirations are out of limitation. In the Mertonian sense, powerlessness indicates that individuals feel their goals are unattainable by legal means. Both ways are leading to eliminating

\textsuperscript{14} China Daily, March 11, 2008.
\textsuperscript{15} Washington Post Foreign Service, China Grows More Wary Over Rash Of Protests, by Edward Cody, Wednesday, August 10, 2005; Page A11.
subjective well-being. I propose two hypotheses that would hold true under conditions of both Mertonian and Durkheimian anomie:

**Hypothesis: 4a. Powerlessness increased between 1990 and 2000**

*4b. Powerlessness had a steadily negative impact on SWB in 1990 and 2000.*

Next, the shift in incomes and social class in China would mean that many individuals experienced economic and social mobility (in any direction), and Durkheimian anomie would arise as a result from this social change. The rising inequality report in China, entailing a growing differentiation for many between legitimate means and cultural ends, implies, according to Merton as well, declining morality and rising normlessness. For both theories, holding such unethical values evidences an anomic condition implying unhappiness and strain. Thus, I expect that normlessness would have increased in the transition, which would account for the decline in SWB.

**Hypothesis: 5a. Normlessness increased between 1990 and 2000**

*5b. Normlessness had a negative impact on SWB in 1990 and 2000.*

### 3.2.4 Social distrust

Happiness promotion from the viewpoint of social capital such as social trust
has been gradually gaining attention in Chinese society. Early studies concerning social capital in China can be traced back to the 1980s when the relationships between social network and the job-seeking process were extensively explored (e.g. Lin, Ensel and Vaughn 1981; Lin and Xie 1988). Findings indicated that the job seeker’s personal resources such as family background and education level could affect his ability in seeking an opportunity of upward job mobility. Furthermore, mutual trust and strong social ties are found to be crucial to seeking a job offer in a changing China (Bian 1999). Workers with the most social capital could easily make use of formal networks in getting job and they did not have to depend on informal social ties (Zhao 2002).

Recently, extensive research observes a declining tendency in social trust with the rapid social change. According to Durkheim (1997/1893), while trust is the foundation of solidarity and cooperation, distrust is likely to accompany social anomie that weakens the moral order and thereby the sense of trust. Given the assumption that anomie is increasing in China (see previous section), the massive transition may produce an increase in distrust in others and untrustworthy behavior. For example, divorce rate, an indicator of family disruption, soars during the transition. From Figure 3.4, one can see that divorce rate increased from 0.69‰ to 1.96‰ between 1980 and 2001. Although the rates are not very high relative to those of Western countries, the absolute numbers are not trivial – 341 000 couples got divorced in 1980 and 1 250 000 in 2001, increased by 366.6%. There are many reasons accounting for the rising divorce rate in China. No doubt that distrust between spouses could contribute a lot to the disruption of families.

Wang (2002) argue that distrust is a part of post-communist personality occurring in modern Chinese society, as materialism widespread. In the international perspective, however, the World Values Surveys consistently show that China has a higher level of mutual trust than Japan and Taiwan, although these Confucian societies have high levels of social trust relative to Western countries (Inglehart and
Despite increasing acknowledgement that social capital is an important determinant of subjective well-being, empirical evidence regarding the direction and strength of these linkages is limited and inconclusive in China, where rapid economic growth coexists with gradual and fundamental social changes. Previous studies focused more on overseas Chinese immigrants (e.g. Chan and Parker 2004; Hwang, Myers and Takeuchi 2000; Lai 2000), as well as Hong Kong (Chan et al. 2004; Chan et al. 2003; Chan, Kwan and Shek 2005; Estes 2005; Lee 2005; Lee, Cheung and Cheung 1979; Liao, Fu and Yi 2005; Lo, Wright and Wright 2003; Man 1991; Wong and Tang; Yeung and Chow 2000) and Taiwan (Chan, Ofstedal and Hermalin 2002; Lu, Tseng and Cooper 1999; Shih 2000; Yang 1994). Few samples have been tested on the mainland Chinese in English literature. Philips, Li and Zhang (2002) displayed that urban women were less likely to commit suicide since they had relatively more extensive social networks for stress buffering, relative to their peers in rural areas. Chen, Copeland, and Wei (1999) analyzed relevant studies on this association and
concluded that Chinese traditional and culture of filial piety have greatly reduced the psychosocial stress, compared to their cohorts in the West. More recently, a study given by Cheung and Leung (2007) showed that perceived government accountability was able to improve individual’s life satisfaction, especially the powerlessness one.

Another study examined relationships between social capital and health and well-being as well as the suitability of commonly used social capital measures in rural China, using data from the baseline survey of a longitudinal study conduct in three rural counties of Shandong province during March and April 2004 (Yip et al. 2007). To measure social capital, the study adopts a structural and cognitive distinction, whereby structural social capital is measured by organizational membership and cognitive social capital is measured by a composite index of trust, reciprocity, and mutual help. The dependent variables included self-report general health, psychological health, and subjective well-being. Results indicate that social trust has positive effects on all three dependent variables at the individual level as well as health and subjective well-being at the village level. In contrast, structural social capital (organizational membership) has no bearing on the outcome variables. Based on those existing studies, I expect that the increased distrust in others would account for the decline of SWB.

Hypothesis: 6a. Interpersonal distrust increased between 1990 and 2000

6b. Interpersonal distrust had a negative impact on SWB in 1990 and 2000.

Another source of growing social distrust might be the decline of effective and trustworthy governance in China. The confidence in government and civil service was
a requirement for every member of the society. Political distrust, therefore, was relatively low in socialist countries, relative to the West. Wang (2005) report that nearly 80% respondents claimed that they were confident in the government, the communist party and the parliament. The ratios are really higher than those in western countries. However, there were more than 20% people expressed their discontent with the socialist regimes.

Besides, before the reform, socialist political hierarchy determined the redistribution of all resources. Such system rewarded political loyalty more than competence. Only a small group of people who was outside of the elite groups got benefits from the economic reform. The majority of elite groups, including political elites and professional elites, received nearly the same wages or only a bit higher wages than non-elites (Zhou, 2001). Elite groups, especially those with high education but with low political position, more likely suffered psychological unbalance and required further reforms, though they received higher income than did working class (Sun, 2003). On the other hand, low income groups, especially working class, benefited from the egalitarianism and lifelong job security. These systems ensure that the low income groups can be kept from the risks and competitions which usually prevail in free market economy. So they would less likely distrust in the government and the socialist regimes.

As market power took the charge of resource distribution, the roles of government and administration gradually changed. Public institutions no longer directly participated in most of the economic activities. Salary and wage were determined by the market rather than political institutions. Elite groups benefited more from the new dynamics of resource distribution and form the main body of high income group. Returns on political capital and human capital rose rapidly (Zhou 2000). Meanwhile, the economic reform broke the so-called iron bowl and abolished the unit-based social security. The government no longer ensured workers of SOEs social security and stable jobs. A large number of poor people, including the
unemployed, the elderly, and the disabled etc., could not get enough support from the public institutions. The feeling of disaffection rose among them. Given the positive association between subjective well-being and distrust in public institutions, I expect that the increase in distrust in public institutions would contribute to the reduced subjective well-being.

_Hypothesis: 7a. Distrust in public institutions increased between 1990 and 2000_

_7b. Distrust in public institutions had a negative impact on SWB in 1990 and 2000._

### 3.3 Conclusion

In this chapter, I tried to lay out economic and social changes in China during the transition, and paid special attention to the influences of the transition on SWB. Statistics strongly show that China has been suffering from increasing social polarization, social anomie, and social distrust, as well as a rising economic inequality, despite of the high economic growth. The negative side-effects of economic transition seem to account for the drop in SWB. Accordingly, I put forward three research questions: (1) did relative deprivation, social and economic polarization, anomie, and distrust spread during transition? (2) Did these four factors negatively impact on people’s SWB during transition? (3) Which of these factors is the most influential for SWB during transition? Based on the analysis on happiness research and Chinese reality, I propose some hypotheses as follows:

Firstly, the deterioration of inequality, indicated by Gini coefficient and social
polarization, implies that the theory of “frustrated achievers” could be true in China. The accumulation of wealth to a minority of people certainly results in the feelings of relative deprivation among the rest of Chinese. Thus, all the people except the high income group would experience frustrated and unhappiness. Similarly, social mobility was released from tight political control during the dramatic transition. Both absolute and relative downward mobility could cause depression and reduce people’s SWB. By contrast, highly educated people, who were frustrated in command economy, would better off in free market.

Secondly, social anomie was prevailing in the period of transition, consistent with Durkheim’s and Merton’s theories. When reformation broke old rigid norms and institutions, the state failed to establish a proper system to administrate market economy and thus brought about uncertainties and conflicts, making people feel powerless. The vacuum of social regulation brought about crimes, corruption, and moral disruption, making people feel normless. These anomie feelings, consequently, could contribute to the drop of SWB.

Thirdly, the transition to free market undermined interpersonal trust when overemphasizing materialism and competition. Meanwhile, the transitional system with new market settings and old political institutes is inevitably accompanied with corruption and low efficiency. As a result, the public would be more discontented with public institutions. In a word, I assume that China’s transition would reduce social trust and thus result in the decline in SWB.

To sum up, China’s puzzle can not be explained with one factor alone. Rather, people’s feelings of their lives are deeply embedded in social environment, including inequality, class, anomie, and trust. To empirically test the assumptions, I introduce the method and data adopted in this analysis in the next chapter.
Chapter 4 Data and Methods

4.1. Source of data

The study is quantitative, and uses the World Values Survey - a worldwide investigation of socio-cultural and political change\textsuperscript{16}. It is specially designed for the purpose of “a cross-national comparison of values and norms on a wide variety of topics and to monitor changes in values and attitudes across the globe” (Inglehart 2000b). A global network of social scientists led by Ronald Inglehart from the University of Michigan, have carried out surveys of representative national samples of the publics of over 80 societies on all six inhabited continents.

“They provide data from representative national samples of the publics of 81 societies containing 85 percent of the world's population and covering a full range of variation, from societies with per capita incomes below 300 dollars per year, to societies with per capita incomes of more than 35,000 dollars per year, from long-established democracies to authoritarian states, and from societies with market economies to societies that are in the process of emerging from state-run economies” (Inglehart 2004).

The surveys builds on the European Values Surveys, first carried out in 1981. A second wave of surveys, including China, was completed in 1990-1991, and a third wave was carried out in 1995-1996 and a fourth wave took place in 1999-2001. The surveys consist of independently representative national samples of at least 1,000 people, 18 years or older, in their own societies. The population was stratified according to rural-urban residence, sex, age, occupation and education, and within the sampling points, each stratum was sampled by quota, with a 10 percent sub-sample of illiterate persons (Inglehart 2000b). In this analysis, only the survey of 1990 and 2000 are used due to many missing variables in the survey of 1995.

\textsuperscript{16} Data and questionnaires can be available via internet access at: www.icpsr.umich.edu.
The surveys of 1990 and 2000 used stratified multi-stage random sampling. The survey of 1990 first stratified the provinces according to three levels of economic development, with several provinces being randomly selected within each of these strata. Within each province, approximately 20 sampling points were selected randomly, with five individuals being interviewed at each point. Finally, the total number of the respondents in 1990 is 1000 (Ronald Inglehart et al 2000). The data, unfortunately, do not offer exact information whether the respondents lived in the countryside or in towns and cities. For the comparison between the rural and urban China, I create a variable of region according to the sampling points and respondents’ occupations. Since the mobility and migration between urban and rural areas were institutionally limited in 1990, the non-agricultural employees usually lived in the urban areas and the agricultural workers and farmers were rural residents. Thus, 202 respondents whose occupation were agricultural worker were treated as rural residents. Besides, 200 respondents were the retired, housewives, students and so on. 31 out of them were from the families in which the chef bread earners were agricultural workers. These respondents were treated as rural residents too. Thus, 767 respondents were from urban area and 233 cases were from rural area.

The survey of 2000 treated each province as an independent stratum. 40 county-level units were drawn out of the sampling frame of 2708 units. In each unit, a township-level unit was randomly chosen. Similarly, a village/neighbor-level unit was randomly chosen in each township-level unit. Thus, 30 village-level units and 10 neighbor-level units were drawn. In each of the chosen village/neighbor-level unit, 25 respondents were drawn according to the sampling interval. Like the survey of 1990, the population was also stratified according to sex, age, occupation and education, and within these sampling points, each stratum was sampled by quota, with a 10 percent sub-sample of illiterate persons (Shen 2001). In addition, 5 village-level units from East-Coast areas were treated as urban area because of their high levels of urbanization and industrialization (the ratio of non-agricultural workers > 40%). Thus, in the sample of 2000, 625 cases were from the rural area and 375 cases were from the
urban area. Table 4.1 presents the basic characteristics of the participants in these two surveys\(^\text{17}\). The difference in the sampling between 1990 and 2000 suggests that it would mislead us if I just simply compare the mean of life satisfaction.

### 4.2 Variables

The questionnaires used included over 300 questions on individual characteristics, lifestyle, and personal opinions. The most important question for my purpose includes questions concerning subjective well-being and its potential predictors.

#### 4.2.1 Dependent variables

Subjective well-being can be measured by a single item or a multiple-variable scale. For the OLS regression analysis, I use life satisfaction as a single indicator of subjective well-being. In the structural equation model, I include financial satisfaction and political satisfaction as indicators of domain satisfactions which reflect another dimension of SWB and are assumed to impact on the global satisfaction with life (see 2.1 for details). Firstly, I use financial satisfaction as a predictor of life satisfaction in the comparison between the samples of 1990 and 2000. Both of the variables are assumed to be dependent on other socioeconomic predictors shown in Figure 4.1. Secondly, I include political satisfaction as an indicator of domain satisfaction. Political satisfaction is a latent variable with three items - democracy satisfaction, incumbent satisfaction and system satisfaction in the comparison between rural and urban sample of 2000 (See Figure 4.2 for details).

1. **Life satisfaction.** Following standard practice the World Values Survey measures life satisfaction by asking people how satisfied they are with their lives

\(^{17}\) After deleted of those missing values in dependent variables, sample size has changed to 996 for the 2000 survey of the study.
taking all things together. Respondents could rate themselves on a scale from 1 (completely dissatisfied) to 10 (completely satisfied). This single-question scale has been proven to be valid to measure life satisfaction in large-sample surveys (Andrews and Whithey, 1976; Campbell, Converse and Rodgers, 1976; Easterlin, 1974; Inglehart, 2004; Layard, 2005). The self-report life satisfaction also co-varies with ratings made by family, friends, and the assessment of the interviewer (Schwarz and Strack 1999). In some surveys, the interviewer records the number of times a respondent smiles or laughs and find that the number of these instances correlates strongly with the value that the respondent assigns to life satisfaction (Oettingen and Seligman 1990). In this analysis, I refer to the single-question scale either as "life satisfaction", or "(overall) happiness".

Happiness is another aspect of subjective well-being and it is measured on a 4-point scale in the World Values Survey. It shows a similar decline in China as does life satisfaction. Still, my analyses focus on life satisfaction for several reasons. Firstly, the ten-point life satisfaction scale provides more differentiated information than the four-point happiness scale and is more suited to my quantitative analysis. Secondly, translations of the word happiness carry more culture-specific connotations than the word satisfaction, making satisfaction ratings better comparable across nations. Thirdly and most importantly, happiness is a more emotional, situational, and mood-related aspect of subjective well-being that is more volatile and subject to short-term fluctuations. Life satisfaction, in contrast, is a more rational and long-term evaluation of subjective well-being that transcends situational fluctuations and is more stable. Thus, pronounced and sustained changes in life satisfaction are less likely and precisely for this reason confronts us with a greater challenge when they occur (Brockmann et al. 2008).

2. Additional variables for measuring SWB. In the part of structure equation modelling, I introduce additional variables to measure subjective well-being. The multiple-variable measurement is supposed to be better than the single-variable
measurement (e.g., Campbell, Converse and Rodgers 1976; Diener, Scollon and Lucas 2003; Van Praag, Frijters and Ferrer-i-Carbonell 2003). Van Praag, Frijters and Ferrer-i-Carbonell (2003) establish a two-layer model where general satisfaction (life satisfaction) is a function of domain satisfactions, like health satisfaction, financial satisfaction, job satisfaction, house satisfaction and environmental satisfaction, which are dependent on individual characteristic variables such as age, gender and income. An advantage of the two-level model is the possibility of examining the roles of characteristic variables through different domains. For my study, I also adopt the two-level model and include financial satisfaction as a domain specific indicator of satisfaction into the analysis in order to examine the relationship between economic growth and subjective well-being in more detail. Since the survey of 2000 further contains three variables measuring political satisfaction, I use them as items of another latent variable namely political satisfaction and controlled their impact in rural and urban China of the year 2000. Accordingly, I assume that these two dimensions of domain satisfactions depend on exogenous variables but influence on life satisfaction.

a. Financial satisfaction. Financial satisfaction is measured by asking people directly whether they were satisfied with their financial situations of their household. Respondents can rate themselves on a scale from 1 to 10 (1=dissatisfied, 10=satisfied). Financial satisfaction has been widely adopted as a measurement of economic subjective well-being or domain satisfaction (e.g. Campbell, Converse and Rodgers 1976; Hayo and Seifert 2003; Hsieh 1997; Schieman, van Gundy and Taylor 2001; Vera-Toscano, Ateca-Amestoy and Serrano-Del-Rosal 2006). Nevertheless, financial dissatisfaction is also considered as an indicator of relative deprivation. Thus, this analysis uses financial satisfaction as a component of subjective well-being in the structural equation model and uses the other side of the coin as an independent variable representing relative deprivation in the regression model.

b. Political satisfaction.
Political satisfaction is a latent variable measured by three exogenous items – democracy satisfaction, incumbent satisfaction, and system satisfaction.

**b.1 Democracy satisfaction.** Democracy satisfaction was measured by asking people directly whether they were satisfied with the way democracy is developing in China. Respondents could rate themselves on a scale from 1 to 4 (1=very satisfied, 4=not at all satisfied).

**b.2 Incumbent satisfaction.** Incumbent satisfaction was measured by asking people directly whether they were satisfied with the way the people now in national office are handling the country’s affairs. Respondents could rate themselves on a scale from 1 to 4 (1=very satisfied, 4=not at all satisfied).

**b.3 System satisfaction.** System satisfaction was measured by asking people directly whether the system for governing this country is good or not. Respondent could make a judgment between 1 and 10 (1= very bad, 10= very good).

### 4.2.2 Independent Variables

To test the hypotheses proposed in previous chapter, I operationalize the three abstract concepts discussed in Chapter 3 – relative deprivation, social anomie, and social distrust. Besides, I also include income groups, subjective social class, educational level, region and some controlling variables like age, gender, health state, and marital status.

**1. Relative deprivation.** There is no direct measure of subjective relative deprivation, showing how much in disadvantage people see their income position relative to their reference groups. But if the theory of relative deprivation is correct, people’s financial satisfaction should be a direct result of such comparisons. Support
for this interpretation comes from D’Ambrosio and Frick (2007). Taking advantage of the panel data nature of the German Socio-Economic Panel, they find self-report levels of satisfaction with income to be positively correlated with the proportion of the population that have been passed by the respondent from one year to the next, and negatively correlated with the population share that passed the respondent. This indicates that people derive satisfaction from being richer than others, and not from simply being rich. Hence I feel some confidence in using financial dissatisfaction as a proxy for relative deprivation. I inverted the scale of financial satisfaction in order to obtain a measure of financial dissatisfaction for the regression analysis.

2. Social anomie. Social anomie usually has five dimensions in terms of Seeman’s (1959) early operationalization of the concept of anomie. In this analysis, I make use of two items based on the available variables offered in the World Values Survey: powerlessness and anomic value (an indicator of normlessness).

a. Powerlessness. Powerlessness is supposed to represent an anomic attitude, for anomic people by definition feel powerless, believing to have little control over how their life turns out. Powerlessness is measured on a 1-to-10 scale indicating a respondent’s feeling of control over her life, with 10 originally meaning complete control over life, and 1 no control. I inverted its scale in terms of the meaning of this concept.

b. Anomic value. Anomic value, an indicator for normlessness, is constructed from answers to the questions: “Please tell me for each of the following statements whether you think it can always be justified, never be justified, or something in between.” The following statements were then shown to the respondents:

a. “Claiming government benefits to which you are not entitled.”
b. “Avoiding a fare on public transport.”
c. “Cheating on taxes if you have a chance.”
d. “Someone accepting a bribe in the course of their duties.”
Respondents were asked how they would rank each statement, using a scale ranging from 1 (never justifiable) to 10 (always justifiable). The score from each of the five questions summed together to create the variable anomic value, which ranged from 4 to 40. I assume that respondent’s anomic value increases with the value of this variable. Finally, the base-e logarithm of this sum is calculated and used as the indicator of the anomic values.

3. Social Distrust. Trust has two dimensions in terms of the operationalization of Patrak (1999). In the regression models, I include two items based on the available variables offered in the World Values Survey: interpersonal distrust and political distrust. For the structural equation models, different variables are used.

a. Interpersonal distrust. Social trust refers to individuals’ estimates of the trustworthiness of generalized others, or abstract trust. Here it is an indicator for social isolation/estrangement. This was measured by asking people directly whether or not they consider others trusted. Respondents have two options: “0” means “should be careful”; “1” means “can be trusted”. Likewise, I inverted its scale in order to make 1 means “should be careful”. However, there was no way in this analysis to distinguish detailed social trust categories, such as trust in friends, trust in family members, or trust in colleagues.

b. Political distrust. I operationalize political distrust by measuring people’s distrust in political institutions that control the country. For that matter I use question about trust in public institutions, which also refers to the trust in specific or abstract systems “which are aggregations of individuals embedded in particular social structures” (Paxton, 1999: 99). For the regression analysis, I model this variable as a sum of five relevant variables: distrust in government, distrust in parliament, distrust in police system, distrust in press, and distrust in civil services. Each of these variables is created by directly asking people whether or not they have confidence in these institutions, with an original scale from 1 “great deal” to 4 “not at all”. I recode them with 0 for “great deal”, “quite” and the missing value, 1 for “not very”, and 2 for
“not at all”. Finally I calculate a sum of the five variables, with a scale from 0 to 10. For the structure equation model, I model this variable as a multiple-item construct with several items. For the comparison between urban sub-samples of 1990 and 2000, I include the five items used in regression model to represent political distrust. For the comparison between rural and urban areas in 2000, I further introduce two items: distrust in TV and distrust in political parties.

4. Income. Income is measured by asking people in which of ten ascending income categories their households is, counting all wages, salaries, pensions and other incomes. Different income brackets were used in the two surveys. E.g., the highest category was “more than 450 Yuan/month” in the 1990 survey, but “more than 50,000/year” in the 2000 survey. In order to make the two comparable, I assign to each respondent the midpoint of his/her respective income category. For the sample of 1990, the variable of income is recoded with the mean of each income item times by 12 to obtain the annual income. The highest item of 1990 is replaced with 8000. That of 2000 is replaced with 80,000. The detailed information on income categories can be found in the appendix. For the reason of comparison, the real incomes of 1990 are timed by the ratio of price index (331/165) given by the National Bureau of Statistics of China (2001) to adjust the inflation and change in purchasing power. Finally, the logarithm of this variable is calculated and used as the indicator of absolute household income in both OLS regression models and SEMs.

For descriptive and comparative purposes, simple income quartiles are used: 1=Low, 2=Lower-Middle, 3=Higher-Middle, 4=Upper. And each category would comprise a fourth of the sample as closely as possible. Table 4.1 presents the distribution.

5. Subjective social class. For social-class identification, respondents were asked to describe themselves as belonging to one out of four classes in 1990 (upper class, middle class, lower middle class, and lower class) and five classes in 2000 (upper class, upper middle class, middle class, lower middle class, and lower class). For the
reason of comparison and the small number of the members of upper class (4 in 2000),
Upper class and middle upper class are merged into upper class for the wave of 2000.
Finally, I have four categories of social class: 1=lower class, 2=lower middle class,
3=middle class, 4=upper class.

6. Education. Educational level is measured as years of leaving school.
Interviewees were asked to state the age at which they completed formal education.
Given the fact that Chinese children always start schooling uniformly at 6 or 7 years
of age and most go to college before the age of 19 or 20, 3 categories were recoded
for the variable: 1="<16 years"; 2="16-20 years"; 3=">20 years".

7. Region. Another important variable for my analysis is region, both for
theoretical and practical reasons. It is well-known that rural China and urban China
are worlds apart in living conditions, and it is perfectly possible that they constitute
separate subjective life-worlds, too. This suggests analyzing them separately. There is,
however, also a practical reason involved. There is no clear-cut information included
in the Chinese WVS data whether the respondent lives in the countryside or in towns
and cities. To compare rural and urban China, I create a new variable combining
information on residential region according to sampling points, and occupation (the
procedure is described in detail in the appendix). Eventually, I find the two samples
very unequal in terms of rural/urban composition. Whereas in 1990, the number of
respondents from cities clearly outnumbered those from the countryside (767 vs. 233),
in 2000 the situation is vice versa (625 rural vs. 375 city). Note that 36% is the official
rate of urbanization (The National Bureau of Statistics of China 2001). This
imbalance between the two surveys leads us to analyze both segments of the
population separately, thus I can safely avoid distorted results stemming from a
shifting urban/rural composition.

8. Controlling Variables

I also employ socio-demographic and socio-economic control variables that are
routinely used in happiness studies: age, sex, partnership and health state, which are
thought to have an impact on satisfaction.

a. **Gender.** Gender is coded 1 for male and 0 for female.

b. **Age.** Age and age$^2$ are used in the regression model. For descriptive purpose,
the samples are respectively divided into four categories: the young group aged equal
to or less than 30; the middle young group aged between 30 and 39; the middle old
group aged between 40 and 49; the old group aged equal to or older than 50.

c. **Marital status.** Marital status contrasts individuals who are married or who
live together with someone as if they are married (coded “1”) with those who do not
live with a significant other (coded “0”), including singles, widows, the separated, the
divorced.

d. **Health state.** It also controls for health state. This is measured by asking
respondents how they would describe their health state these days. Respondents can
rate their states of health on a scale from 1 (very good) to 5 (very poor). The groups
“very poor” and “poor” are merged, since only 5 respondents report “very poor” in the
sample of 1990 and none in the sample of 2000. Validity of this health category has
been proved in existing research concerning Chinese society, although the differences
between the meanings of fair and good/poor are not as distinct as that in Western
society due to the Asian cultures (e.g. Chou and Chi 1999; Yip et al. 2007). In some
cases, a healthy Chinese would rather self-rate as “Fair” health status if he/she thinks
such assessment help to protect him/her from diseases in the future (Lin, Tseng and
Yeh 1995).
4.3 Description of the samples

Table 4.1 provides descriptive information of Chinese samples of 1990 and 2000. One can see that the sample of 1990 contains some sampling bias. Above all, the sample of 1990 consists of 767 urban residents and 233 rural residents, indicating a big regional bias too. Conducting survey was a hard task in a developing and non-democracy society, especially in a remote rural area. It thus is understandable that random sampling was not followed and the main part of the survey was done in cities. In the survey of 2000, I distinguished 375 urban residents and 621 rural residents in terms of occupation and survey points. The ratio is close to 36%, the official rate of urbanization in 2000 (China Bureau of Statistics, 2001). Given the sampling bias in 1990, I present the sample description four sub-samples in line with survey years and regions.

In 1990, gender bias was salient. The ratios of gender are respectively 142 to 91 in the rural sample and 459 to 308 in the urban sample. The urban sample of 1990 contains more people younger than 30 relative to other age groups, while the rural sample has nearly the same amount of cases in each age group. About 80% of respondents are married. The majority consider themselves in good or very good health conditions, whereas only small groups of people report poor health state in the samples. Regarding to social class, only 56 respondents consider themselves as members of upper class in the whole sample. 116 out of 233 farmers grouped themselves into the lower class and 77 farmers thought they are members of middle lower class. That is, 83% farmers believed they were below the middle level of the society. In cities, nearly 50% of respondents (389 out of 767) consider themselves belonging to low middle class, while 172 respondents were at the bottom of society. Likewise, only a minority of urban residents agreed to be in the middle and upper class. It probably implies the fact that people do not perceive high social status in an
egalitarian but poor society. More people are grouped into low and middle low income groups since relatively large numbers of people were self-rank themselves into the lowest two or three categories. It is impossible to further distinguish those income groups without additional information.

<table>
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<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Male</td>
<td>142</td>
<td>459</td>
<td>312</td>
<td>180</td>
</tr>
<tr>
<td>Female</td>
<td>91</td>
<td>308</td>
<td>309</td>
<td>195</td>
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<tr>
<td>Age groups</td>
<td></td>
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<tr>
<td>&lt;30</td>
<td>57</td>
<td>246</td>
<td>126</td>
<td>67</td>
</tr>
<tr>
<td>30-39</td>
<td>54</td>
<td>181</td>
<td>203</td>
<td>113</td>
</tr>
<tr>
<td>40-49</td>
<td>60</td>
<td>148</td>
<td>140</td>
<td>115</td>
</tr>
<tr>
<td>50-</td>
<td>62</td>
<td>192</td>
<td>152</td>
<td>80</td>
</tr>
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<tr>
<td>Married</td>
<td>189</td>
<td>586</td>
<td>545</td>
<td>323</td>
</tr>
<tr>
<td>Non-married</td>
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<td>181</td>
<td>76</td>
<td>52</td>
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<tr>
<td>Poor</td>
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<td></td>
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<td>42</td>
</tr>
<tr>
<td>Fair</td>
<td></td>
<td>80</td>
<td>311</td>
<td>141</td>
</tr>
<tr>
<td>Good</td>
<td>42</td>
<td>199</td>
<td>200</td>
<td>109</td>
</tr>
<tr>
<td>Very good</td>
<td>101</td>
<td>215</td>
<td>193</td>
<td>104</td>
</tr>
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<td>Social class</td>
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<td>Lower class</td>
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<td>172</td>
<td>125</td>
<td>75</td>
</tr>
<tr>
<td>Middle lower class</td>
<td>77</td>
<td>389</td>
<td>151</td>
<td>95</td>
</tr>
<tr>
<td>Middle class</td>
<td>37</td>
<td>184</td>
<td>324</td>
<td>195</td>
</tr>
<tr>
<td>Upper class</td>
<td>3</td>
<td>22</td>
<td>21</td>
<td>10</td>
</tr>
<tr>
<td>Income quartile</td>
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</tr>
<tr>
<td>Lowest</td>
<td>64</td>
<td>242</td>
<td>129</td>
<td>126</td>
</tr>
<tr>
<td>Middle lower</td>
<td>79</td>
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<td>186</td>
<td>73</td>
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<tr>
<td>Middle</td>
<td>55</td>
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</tr>
<tr>
<td>High</td>
<td>35</td>
<td>97</td>
<td>169</td>
<td>73</td>
</tr>
<tr>
<td>Total</td>
<td>233</td>
<td>767</td>
<td>621</td>
<td>375</td>
</tr>
</tbody>
</table>

The quality of sampling was improved a lot in 2000. The gender ratios of 2000 are close to .5 in both regions, which are rather close to the real ratio of gender distribution. The sample of 2000 has better age structure in both regions, although the youngest group is smaller than all other age groups. With respect to marital status, more respondents were married in 2000 than in 1990. It may be partly attributed to the smaller size of the youngest group. Interestingly, a majority of rural and urban people agreed to be middle class (respectively 324 out of 621 and 195 out of 375). Given the big gap between rural and urban area, the fact that more than 50% of farmers perceive themselves as middle class indicates that their reference groups for the judgment of social status are not urban residents but those living in the countryside. Another explanation could be that substantially improved living conditions during the observational decade made rural residents agree not to be at the bottom of society. For income quartiles, the sizes of four rural income groups are similar while the numbers of four urban income groups are diverse, with the most respondents in low income group (N=126) and the least in middle low and high income groups (N=73).

Because of the sampling bias in 1990, it may mislead if I simply compare the mean differences between 1990 and 2000. Thus, the samples are respectively divided into two subgroups in the light of regions. Table 4.2 respectively presents the descriptive results among the four subgroups. Above all, there are salient and steady gaps between rural and urban areas over time, in terms of all the dependent and independent variables except social class in 2000. But, there are also salient differences within rural and urban areas during the observational period.

With respect to life satisfaction, rural respondents are more satisfied with lives than urban peers (respectively: 7.62 to 7.19 in 1990 and 6.67 to 6.28 in 2000), and the respondents are more satisfied in 1990 than in 2000 (respectively: 7.62 to 6.67 in rural area and 7.19 to 6.28 in urban area). Financial disaffection does not significantly differ between regions but greatly increases over time (from 4.73 to 5.30 in the countryside and from 4.93 to 5.45 in cities), indicating that more people do not
satisfied with their financial situation as GDP per capita soars and economic inequality deteriorates.

Real income increased nationwide between 1990 and 2000. But the speed of income growth is higher in cities than in the countryside – the log of household income increases from 7.52 to 8.00 in rural areas but from 8.09 to 9.08 in urban areas. Further, standard deviation of the log of household income soars in cities during this period (from .99 to 1.17), indicating the deterioration of urban economic inequality. In the countryside, standard deviation of the log of household income declined from .83 to .53. It does not mean better situation of rural economy. Rather, taking lower average income into account, it means that farmers’ incomes, on average, were kept at a low level in the 1990s.

Anomic values increased in both regions, while feeling of powerlessness did not change very much in the 1990s. The steady levels of powerlessness hint that powerlessness did not increase during the rapid social change. Nevertheless, the differences in anomic values over time are not neglectable relative to the standard deviations. It thereby suggests that anomic attitudes spread during transition. Respectively, anomic values increase by 0.10 units in rural areas and 0.08 units in urban area. This finding was expected considering the rapid rise in both individual wealth and in inequality in China, thus allowing for anomie as a result of rapid social change.

Interpersonal distrust did not substantially spread over time in rural areas (from .59 to .61) but did in cities (from .51 up to .60). Urban Chinese more likely distrusted other people in 2000 than in 1990. It implies that interpersonal ties were undermined in cities during transition.
<table>
<thead>
<tr>
<th></th>
<th>Rural areas</th>
<th>Urban areas</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Life Satisfaction:</strong> “How satisfied are you with your life as a whole these days?” (1 completely dissatisfied – 10 completely satisfied).</td>
<td>7.62 (2.13)</td>
<td>6.67 (2.40)</td>
</tr>
<tr>
<td><strong>Financial dissatisfaction:</strong> “How satisfied are you with the financial situation of your household?” (1 completely satisfied - 10 completely dissatisfied).</td>
<td>4.73 (2.66)</td>
<td>5.30 (2.66)</td>
</tr>
<tr>
<td><strong>Income:</strong> What is the total income of your home last year? Including all income in the past 12 month. (The log of adjusted income is used).</td>
<td>7.52 (.83)</td>
<td>8.00 (.58)</td>
</tr>
<tr>
<td><strong>Social class:</strong> Would you describe yourself as belonging to the: 1=lower class, 2=lower middle class, 3=middle class, 4=upper class.</td>
<td>1.68 (.78)</td>
<td>2.07 (.76)</td>
</tr>
<tr>
<td><strong>Powerlessness:</strong> Do you feel you can control over your lives? (1 a great deal – 10 none at all).</td>
<td>3.48 (2.25)</td>
<td>3.58 (2.53)</td>
</tr>
<tr>
<td><strong>Anomic values:</strong> Please tell me for each of the following statements whether you think it can always be justified (10), never be justified (1), or something in between: Bribe, Cheating tax, avoiding transportation fare, and illegally taking.</td>
<td>1.57 (.35)</td>
<td>1.67 (.43)</td>
</tr>
<tr>
<td><strong>Interpersonal Distrust:</strong> Would you say that most people can be trusted or that you need to be very careful in dealing with people? (0 most people can be trusted – 1 need to very careful)</td>
<td>.59 (.49)</td>
<td>.51 (.50)</td>
</tr>
</tbody>
</table>
With respect to political distrust, Table 4.3 presents the basic information concerning political distrust. Rural residents vest more distrust in public institutions in 2000 and in 1990. But they were less distrust in public institutions in both years than did urban residents. Urban respondents, on average, showed much lower disaffection in 2000 than 10 years ago (5.03 to 4.88). The consistent standard deviations suggest that the distribution of political distrust does not substantially alter, although the sizes of these subgroups are diverse. The results offer mixed evidence for. It is confirmed in rural areas but rejected in urban areas.

The further details concerning each item of political distrust confirm the regional differences between rural and urban areas. Farmers seem more likely to distrust four out of five public institutions at the later stage of transition, with no big changes in standard deviations. The exception is “distrust in press” whose coefficient declines from 2.26 down to 2.16. By contrast, urban dwellers held more positive assessment on public institutions at the later stage of transition. Except police, all other four public institutions obtain more supports from urban dwellers in 2000. Especially, the biggest reduction occurred in the distrust in national government. The rest two items, distrust in political party and TV, plus three items of political satisfaction are missing in the sample of 1990.

With regard to regional differences, farmers seemed to less likely mistrust in public institutions. In the sample of 1990, all means of available variables shown in column 2 are respectively less than those in column 3, at significant level of .001. For the sample of 2000, national government, parliamentary, and political party receive saliently less discontent than police, civil service, press and TV; the means of distrusts in the former are less than 1.81, while the distrusts in the latter are beyond 2.10. Distrust in national government, parliament and civil service are almost constant across regions. By contrast, police, press, and TV receive saliently more distrust in urban areas than in rural areas, at significant level of .05.
### Table 4.3 Item formulations and descriptive measures on political distrust and political satisfaction in the sample of China (1990-2000)

<table>
<thead>
<tr>
<th></th>
<th>1990 Rural Mean (SD)</th>
<th>1990 Urban Mean (SD)</th>
<th>2000 Rural Mean (SD)</th>
<th>2000 Urban Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Political distrust:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>“Could you tell me how much confidence you have in the following institutions?” (1 not quite, 2 not at all, and 0 others): National government, Parliament, Police, Press, and Civil service.</td>
<td>4.25 (1.45)</td>
<td>5.03*** (1.57)</td>
<td>4.42 (1.31)</td>
<td>4.88*** (1.58)</td>
</tr>
<tr>
<td><strong>Distrust in specific institutions:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(1 completely trust - 4 not at all trust)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>National government</td>
<td>1.47 (0.66)</td>
<td>2.00*** (0.8)</td>
<td>1.63 (0.54)</td>
<td>1.66 (0.56)</td>
</tr>
<tr>
<td>Parliament</td>
<td>1.27 (0.55)</td>
<td>1.90*** (0.86)</td>
<td>1.73 (0.55)</td>
<td>1.73 (0.63)</td>
</tr>
<tr>
<td>Civil service</td>
<td>2.1 (0.73)</td>
<td>2.39*** (0.71)</td>
<td>2.24 (0.62)</td>
<td>2.31 (0.64)</td>
</tr>
<tr>
<td>Police</td>
<td>1.95 (0.7)</td>
<td>2.27*** (0.76)</td>
<td>2.11 (0.64)</td>
<td>2.32*** (0.79)</td>
</tr>
<tr>
<td>Press</td>
<td>2.26 (0.72)</td>
<td>2.43*** (0.68)</td>
<td>2.16 (0.61)</td>
<td>2.33*** (0.69)</td>
</tr>
<tr>
<td>TV</td>
<td>NA</td>
<td>NA</td>
<td>2.1 (0.62)</td>
<td>2.25** (0.66)</td>
</tr>
<tr>
<td>Political Party</td>
<td>NA</td>
<td>NA</td>
<td>1.77 (0.57)</td>
<td>1.81 (0.6)</td>
</tr>
<tr>
<td><strong>Political satisfaction:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incumbent satisfaction (IS): “How satisfied are you with the way the people now in national office are handling the country’s affairs?” (1 very dissatisfied - 4 very satisfied)</td>
<td>NA</td>
<td>NA</td>
<td>2.78</td>
<td>2.75</td>
</tr>
<tr>
<td>Democracy satisfaction (DS): “On the whole are you very satisfied, rather satisfied, not very satisfied or not at all satisfied with the way democracy is developing in my country?” (1 not at all - 4 very satisfied)</td>
<td>NA</td>
<td>NA</td>
<td>3.00</td>
<td>2.89**</td>
</tr>
<tr>
<td>System satisfaction (SYS): “People have different views about the system for governing this country. Here is a scale for rating how well things are going: 1 means very bad; 10 means very good”.</td>
<td>NA</td>
<td>NA</td>
<td>7.15</td>
<td>6.77***</td>
</tr>
</tbody>
</table>

Note: T-test of mean differences is conduct between rural and urban areas respectively in 1990 and 2000. Significant level: *: <.05, **: <.01, ***: <.001.

Regional gaps also exist for two items of political satisfaction. Democracy satisfaction and system satisfaction are significantly higher in rural areas than in urban areas, at significant level of .01. That is, farmers are more satisfied with governing system and democracy than do urban dwellers. The difference in satisfaction with incumbent (.03) is small and statistically insignificant.

Table 4.4 and 4.5 presents the correlation matrix, indicating the strength of relationships between these variables of political distrust. Correlations provide information on the strength of the relationship between those variables. The values are Pearson correlation coefficients with two-tailed significant test, which allows for greater interpretability and comparison. Pearson’s r values range from -1 to 1, whereby values of 0 indicate no correlation and values of -1 or 1 indicate perfect correlation (Pedhazur and Schmelkin 1991). A negative value is associated with an inverse relationship between the variables, whereas a positive value is associated with a positive relationship.

<table>
<thead>
<tr>
<th></th>
<th>GOV</th>
<th>PARL</th>
<th>POLICE</th>
<th>SERVIC</th>
<th>PRESS</th>
</tr>
</thead>
<tbody>
<tr>
<td>GOV</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PARL</td>
<td>0.60</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>POLICE</td>
<td>0.41</td>
<td>0.43</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SERVIC</td>
<td>0.25</td>
<td>0.27</td>
<td>0.29</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>PRESS</td>
<td>0.27</td>
<td>0.24</td>
<td>0.42</td>
<td>0.31</td>
<td>1</td>
</tr>
</tbody>
</table>

Note: GOV: Distrust in central government; PARTY: Distrust in political parties; PARL: Distrust in parliament; PRESS: Distrust in press; TV: Distrust in TV; POL: Distrust in police; SER: Distrust in civil service. All estimates are significant at the level of .05.

With regard to the sample of 1990, one can see that all five variables are highly
associated with each other, at the significant level of .05. The weakest correlation out of all correlations is .24 between PARL and PRESS and the strongest is .60 between GOV and PARL.

For the sample of 2000, the three items of political satisfaction – democracy satisfaction, incumbent satisfaction and system satisfaction – are highly associated with each other. The weakest correlation out of all correlations among the three variables is .25 and the strongest is .31, while their correlations with all other variables are lower, ranging from -.15 to -.25. Some of their relations with the indicators of political distrust are rather stronger. Similarly, the seven indicators of political distrust are highly associated. In particular, PARTY, GOV and PARL are strongly correlated with each other, while TV, PRESS, POLICE and SERVICE are associated tightly.

<table>
<thead>
<tr>
<th></th>
<th>SYE</th>
<th>DS</th>
<th>IS</th>
<th>PARTY</th>
<th>GOV</th>
<th>PARL</th>
<th>TV</th>
<th>PRESS</th>
<th>POLICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>SYS</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DS</td>
<td>0.25</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IS</td>
<td>0.31</td>
<td>0.29</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PARTY</td>
<td>-0.15</td>
<td>-0.21</td>
<td>-0.23</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GOV</td>
<td>-0.18</td>
<td>-0.25</td>
<td>-0.19</td>
<td>0.63</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PARL</td>
<td>-0.19</td>
<td>-0.21</td>
<td>-0.20</td>
<td>0.57</td>
<td>0.59</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TV</td>
<td>-0.23</td>
<td>-0.23</td>
<td>-0.25</td>
<td>0.25</td>
<td>0.27</td>
<td>0.29</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PRESS</td>
<td>-0.22</td>
<td>-0.23</td>
<td>-0.30</td>
<td>0.25</td>
<td>0.26</td>
<td>0.27</td>
<td>0.63</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>POLICE</td>
<td>-0.23</td>
<td>-0.20</td>
<td>-0.26</td>
<td>0.24</td>
<td>0.26</td>
<td>0.29</td>
<td>0.43</td>
<td>0.43</td>
<td>1</td>
</tr>
<tr>
<td>SERVICE</td>
<td>-0.18</td>
<td>-0.19</td>
<td>-0.26</td>
<td>0.27</td>
<td>0.21</td>
<td>0.27</td>
<td>0.30</td>
<td>0.30</td>
<td>0.38</td>
</tr>
</tbody>
</table>

Note: DS: Democracy satisfaction; IS: Incumbent satisfaction; SYS: Judgment of good system; PARTY: Distrust in political parties; TV: Distrust in TV. For the rest abbreviations, see Table 4.4.
All estimates are significant at the level of .05.
Table 4.6 displays the means of absolute income\textsuperscript{18} among income quartiles and social classes in terms of regions and years. Some values of standard deviation are equal to 0 in that certain income groups respectively have only one income category (for details see 4.2.2). Accordingly, t-test of mean comparison is not conduct among income quartiles. Firstly, differences in income are significant between rural and urban areas in both waves. Comparing the average income between lowest and high income groups, one can see that income inequality increased a lot in 2000 relative to 1990. Next, the standard deviations of high income group increase in both regions between 1990 and 2000 (respectively, from .24 up to .76 in rural areas and from .19 up to 2.84 in urban areas), indicating that the transition led to serious concentration of social wealth in the hands of a small group of people, resulting in the relative or absolute poverty of other social groups in China.

The same pattern of absolute income distribution can be found for social class. The lower social stratum, the lower income the respondents have. Given the same subjective social class, rural respondents had significantly lower income than do urban dwellers in 2000. In 1990, rural lower class holds .37 less units of the log of household income than does urban lower class, at significant level of .05, and rural middle and upper class has .30 less units than does its urban peer.

\textsuperscript{18} Here absolute income refers to the log of adjusted means of household income categories to which respondents belong. For details see 4.2.2.
### Table 4.6 Distribution of absolute income among income quartiles and social classes in China (1990-2000)

<table>
<thead>
<tr>
<th></th>
<th>1990 Mean (SD)</th>
<th>2000 Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Income quartile</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lowest</td>
<td>6.4 (0)</td>
<td>7.61 (0.46)</td>
</tr>
<tr>
<td>Middle lower</td>
<td>7.5 (0)</td>
<td>8.37 (0.12)</td>
</tr>
<tr>
<td>Middle</td>
<td>8.13 (0.16)</td>
<td>8.66 (0)</td>
</tr>
<tr>
<td>High</td>
<td>8.85 (0.24)</td>
<td>8.97 (0.76)</td>
</tr>
<tr>
<td><strong>Social class</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower class</td>
<td>7.05 (0.62)</td>
<td>8.07 (0.56)</td>
</tr>
<tr>
<td>Middle lower class</td>
<td>8.01 (0.65)</td>
<td>8.34 (0.5)</td>
</tr>
<tr>
<td>Middle and upper</td>
<td>8.10 (0.92)</td>
<td>8.62 (0.69)</td>
</tr>
</tbody>
</table>

Note: T-tests of mean differences on income are conduct only for social class between rural and urban areas respectively in 1990 and 2000. Middle and upper class consist of both middle class and upper class in that the members of upper class are less than 30.

Significant level: *: <.05, **: <.01, ***: <.001.

4.4 Statistical Model

In the first part of the analysis multivariate regression is used to analyze the patterns of subjective well-being separately across rural and urban population in 1990 and 2000. Then, the analysis pools 2 subsequent surveys from the cross-sectional World Values Surveys. This dataset consists of 1987 observations. In the second part, I use a structural equation model to examine a two-level model containing financial satisfaction as a mediator between life satisfaction and several explaining variables for the urban sub-samples. In this model, political distrust is a latent variable with five exogenous variables. For the sample of 2000, I extend the two-level model by introducing two items for political distrust and three items for a new latent variable, political satisfaction. Political satisfaction is assumed as another mediator between life satisfaction and the explaining variables.

4.4.1 Multivariate regression models

1. Basic regression model (Equation 1)\(^{19}\)

Multivariate regression was used to explore potential relationships between variables in this analysis. I start with an Ordinary Least Squares (OLS) regression model that relates SWB to independent variables, and takes the form:

\[
S_{ti} = \beta_{0ti} + \beta_{1ti}X + \varepsilon_{ti}
\]  

\(^{19}\) The strategy of this analysis is partly derived from the paper by Brockmann, Dehley, Welzel and Yuan (2008).
Here $S$ is the level of life satisfaction for an individual in region $i$ in the wave of $t$; $X$ is a vector of the independent variables; $i$ refers to rural or urban area; and $\varepsilon_{it}$ are error terms. The $\beta$s are the “fixed” parameters to be estimated.

I specify four models: a baseline model that includes only demographic variables such as gender, age, age$^2$, marital status, and health state; the second model adds log of absolute income and educational level to the baseline; a third model includes social class, powerlessness, anomic value, interpersonal distrust, and political distrust; finally, financial dissatisfaction is added to the fourth model. For each model, a weighted least squares equation is estimated. This means that I treat the dependent variable life satisfaction as a continuous variable. With regard to the vector of the independent variables, a three-step strategy is used: first, only controlling variables, namely demographic variables, are included to obtain the basic distribution of SWB; second, all independent variables except financial dissatisfaction are introduced to test my three theoretical assumptions. Finally, financial dissatisfaction is added in order to prove whether or not relative deprivation is a good explanation for China’s puzzle.

Statistical software is employed to calculate multiple regression estimates. STATA generates two important coefficients, the proportion of variance explained by the independent variables ($R^2$) and the multiple regression coefficients, showing the direction and size of the effect of each independent variable on the dependent variable, represented by either the standardized “b” or standardized “B”. The closer the value of $R^2$ to 1.00, the more the independent variables “explain” changes in the dependent variable. The unstandardized multiple regression coefficients are measured in the same units as the variables themselves while the standardized multiple regression coefficient uses standard deviation units which allow for direct comparison between multiple regression coefficients.

I report unstandardized regression coefficients (b) and t-values (t) for Equation 1. Explained variance, namely $R^2$, reflects the amount of influence on life satisfaction from the independent variables as they are added to the multiple regression equation.
The so-called Huber/White or sandwich estimator of variance is used in the two models in order to account for heteroscedasticity. The following standard errors presented are therefore robust standard errors and adjusted $R^2$ is reported.

2. The cross-sectional regression model (Equation 2)

Although E1 can uncover which independent variables are significantly influential for life satisfaction, it is unable to distinguish whose effects statistically stronger between 1990 and 2000. In order to test the impact of economic transition over time, I also estimate another set of linear regression models in which the interactions between years and independent variables are included.

$$S_t = \beta_0 + \beta_{1t}X + \beta_{2t}W + \beta_{3t}W^*X + \epsilon_t$$  \hspace{1cm} (2)$$

Here $S_t$ stands for satisfaction with life in the pooled dataset in the wave of $t$; $X$ is a vector of the independent variables; $W$ is the dummy variables of years (2000=1, 1990=0); $i$ refers to rural or urban areas; and $\epsilon_t$ are error terms. $X^*$ is the vector of independent variables which is identical to the set of variables used in Equation 1. In this part of the analysis income is replaced with a set of dummy variables representing four income groups and social class is replaced with a set of dummy variables representing three class groups. Like the previous analysis, a two-step strategy is used. I report standardized regression coefficients (Beta) as well as unstandardized regression coefficients (b) in order to compare changes in regression coefficients for Equation 2 between rural and urban sub-samples.

The so-called Huber/White or sandwich estimator of variance is used in the models. The following standard errors presented are therefore robust standard errors and adjusted $R^2$ is reported. Since the sample sizes of 1990 and 2000 were not equal, I
weight the cases with creating a special weight variable in order to generate equal sub-samples for the two pooled regional samples. In this way, the probability of an observation to be included in the pooled sample is the same irrespective of whether it originally belongs to the 1990 or the 2000 sub-sample. Caution is called as the weights could significantly distort the estimates. Therefore, I also report the estimates from the full model tested with un-weighted data.

4.4.2 Structural equation models

This analysis applies multiple correlation, confirmatory factor analysis, standard Structural Equation Modeling (SEM) and multiple-group structural equation modeling one by one. The last one can be conceived as an extension of standard structural equation modeling techniques. SEM takes a hypothesis-testing approach in determining the structural theoretical model of some phenomenon (Byrne 2001). In structural analysis, the proposed theory is compared to the sample data to estimate goodness of fit. Adequate fit implies support for the hypothesized model. Regression analysis and factor analysis are the basis of SEM. The former allows for prediction of the variance in a criterion variable that is associated with the predictor variables. An overall measure of $R^2$ signifies the amount of variance in the criterion that is account for by the predictor variables. The latter, also known as measurement model in SEM, is a procedure that investigates relationships between sets of exogenous variables and latent variables (Byrne 2001). Structural equation model provides numerous research advantages such as (a) correction for measurement error, (b) tests of measurement equivalence across groups, and (c) inclusion of covariates. The statistical program chosen for this analysis is AMOS 6.0 (Arbuckle 2005).
1. Method and strategy

For SEM, some critical assumptions should be addressed. First, most of the indicators used in this analysis have an ordinal scale. Although categorical data can affect Chi-Square and result in attenuation of coefficients, this kind of data has been widely adopted in social science (Garson 2005). When ordinal data are used, is it often suggest that they should have a least five categories and not be strongly skewed (Garson 2005). Second, SEM assumes that the data used should have a multivariate normal distribution. Violation of linearity can lead to an underestimation of the strength of the correlation coefficients. Probability plots are often used to detect non-linearity (Pedhazur and Schmelkin 1991) and will be the method for determining linearity in the study. The third assumption is that the model is accurately specified. Model specification is attained by conducting a thorough literature review of the inclusive variables. Model specification requires that all relevant predictor variables that factor into the hypothesized model are included and those that are irrelevant are excluded. In this line, the analysis includes only the most highly correlated indicators for each model, based on the literature review in Chapter 2 and Chapter 3 and the results from regression models.

Sample size determination for SEMs is a controversial issue among statisticians. Currently, there is not one set way to estimate adequate sample size for SEMs. Numerous studies have addressed this issue and consideration for the different. Some scholars suggest estimating sample size using some traditional “rule of thumb”. For example, Comrey and Lee (1992) suggest determining sample size using a minimum value of 50 as very poor, 100 as poor, 200 as fair, 300 as good, 500 as very good, and 1,000 as excellent. A minimum value (200 or more) is widely accepted for determination of sample size, as well as ensuring accuracy and reliability of the indicators, and ensuring an adequate number of indicators (more than two) per latent variable (Byrne 2001; Hayduk 1987; Jöreskog and Sörbom 1993). Hoelter’s Critical is
a measure of sample size that is distinct to SEM. This measure is automatically
generated with the AMOS output data and provides information on adequacy of
sample size. The purpose of Hoelter’s Critical is to estimate a sample size that would
be sufficient to yield an adequate model fit for the Chi-square test (Byrne 2001).
Therefore, Hoelter’s Critical will be used to identify if the sample size meets the
criteria for this measure, given numbers larger than 200.

The sample size of rural China in 1990 is only 233. Although larger than 200, it
is not big enough to generate reliable estimates, as AMOS suggests. Thus, the rural
sub-sample of 1990 has been dropped. Therefore, the comparisons are conduct in two
steps. Firstly, a structural equation model is tested with pooled urban data from 1990
and 2000 (Figure 4.1). Secondly, an extended model with additional political factors is
estimated, using data from the sample of 2000.

Once the proposed models have been built, analysis will begin to determine the fit
of those models to the data. Goodness-of-fit measures indicate the extent to which the
models are correlated with the sample moments. In other words, the goodness-of-fit
indices compare the “observed covariance matrix to the one estimated one the
assumption that the model being tested is true” (Garson 2005).

Several indices are chosen for this analysis: Chi-square, CFI, and RMSEA. The
Chi-square statistic tests the extent to which specification of the factor loadings, factor
variances, and error variances for the model are valid (Byrne 2001). For this reason,
chi-square should not be significant since the objective is to develop a model that is
valid. Significance for this measure should be .05 or greater.

CFI (comparative fit index) is a goodness-of-fit measure with values that range
from zero to one. This measure is derived from comparison of the hypothesized model
with the independent model; to accept the SEM, the value of CFI is desirable to be
equal to or higher than .95 (Byrne 2001).

RMSEA (root mean square error of approximation) asks the question: “How well
would be the model, with unknown but optimally chosen parameter values, fit the population covariance matrix if it were available?” (Browne and Cudeck 1993: 137-138) Values less than .05 indicate good fit for this measure, while values as high as .08 represent reasonable errors of approximation in the population (Browne and Cudeck 1993). Amos 6.0 additionally reports a 90% confidence interval around the RMSEA. While as RMSEA value may be small, a wide confidence interval may suggest imprecision and result in the inability to accurately determine the degree of fit in the population. By contrast, a very narrow confidence interval would suggest good precision of the RMSEA value in reflecting the fit of the model with the population (Byrne 2001).

Because the purpose of this analysis is to compare the determinants of SWB between regions and waves, the individual effects of different factors are examined. SEM generates regression statistics for the relationship between independent variables and dependent variables, which allow for comparison across regions and waves. Furthermore, SEM provides an overall $R^2$ for the proposed model. The $R^2$ measures the overall impact of all independent variables on the latent variable of subjective well-being. This also illustrates how much variance in SWB is explained by the independent variables.

2. A baseline model (S1)

In the first model, SWB is measured with life satisfaction and financial satisfaction. In this case, two dependent variables, life satisfaction (LS) and financial satisfaction (FS), are used as manifest variables that reflect two dimensions of SWB. In particular, life satisfaction is dependent on financial satisfaction. There is one latent variable: political distrust (PD). A latent variable, also known as a factor, is a variable that is not directly observed and is displayed as circles in the SEM graph (Byrne
2001). Political distrust, as an independent variable for SWB, has five items: distrust in government (Gov), distrust in parliament (PARL), distrust in police system (POLICE), distrust in press (PRESS), and distrust in civil services (SERVICE). This model tests whether political distrust has significant effect on SWB in the urban sub-samples of 1990 and 2000.

Figure 4.1 A structural equation model on the transitional SWB in urban China (1990-2000)

Note: LS, life satisfaction; FS, financial satisfaction; PARL, distrust in parliament; GOV, distrust in central government; POLICE, distrust in police; PRESS, distrust in press; Service, distrust in civil service; PD, political distrust. SE, socioeconomic variables such as income, powerless, health and class.

Afterwards, I divide the data into two subgroups in terms of year. With the multiple-group structural equation model, I am able to test the assumed changes in the structural relationships of those indicators and latent variables between 1990 and 2000 in urban areas.
3. A second Structural Equation Model (S2)

In my second structural equation model, further political factors are added for the comparison between the rural and urban sub-sample of 2000. A latent variable Political Satisfaction (PS) is introduced as a mediator between political distrust and SWB (see Figure 4.2). It has three items which are available in the sample of 2000: incumbent satisfaction (IS), democracy satisfaction (DS), and system satisfaction (SYS). Two additional items are added to the construct of political distrust: distrust in political party (PARTY) and distrust in TV (TV).

Figure 4.2 Extended structural equation model on the transitional SWB in contemporary China: a path approach

Note: for identification of labels see Figure 4.1. PS, political satisfaction; IS, incumbent satisfaction; DS, democracy satisfaction; SYS, system satisfaction, PARTY, distrust in political party; TV, distrust in TV.

Based on political distrust theory, I assume that political distrust has negative impact on political satisfaction which has positive influence on life satisfaction. The direct effect of political distrust on life satisfaction and financial satisfaction is also
tested. In addition, socio-economic factors like income, personal control, health and so on have more or less influence on all of the three latent variables. The model is, at first, tested with the whole sample of 2000 in order to confirm the validity of those three latent constructs. Given the validity of those constructs, the model is estimated with both rural and urban sub-samples of 2000 in the purpose of statistically comparing the causal relationships of political distrust and socioeconomic factors with satisfactions.

4.5 Analytical concerns

Several methodological concerns should be addressed before proceeding to analyze the World Values Survey data. The most important is whether the WVS data and the measurement of subjective well-being are valid and reliable. After those, causal relationships between dependent variables and independent variables are discussed.

4.5.1 Validity

Can we really estimate individual’s inner consciousness with the measurements of SWB? Extensive research has been conduct on the validity of this issue, and comes to different conclusions. Diener and his colleagues (1995) argue that self-reports of subjective well-being are significantly correlated with other measures of well being such as social, economic, and cultural characteristics of 55 nations in a large college student sample. Oettingen and Seligman (1990) examine the life satisfaction question, with regard to the posture and facial expressions of Germans living in West and East Berlin and optimistic versus pessimistic opinions of current issues on the news. They
conclude that West Berliners report higher levels of life satisfaction and were more prone to smile and laugh during the interview. These respondents sat more upright and had a more positive opinion of news events than the East Berliners. Sandvik, Diener, and Seidlitz (1993) also observed that life satisfaction is highly correlated with many positive memories which can be recalled more often than negative memories. These results support the validity of my used measurement for life satisfaction.

A long list of studies also strengthens the argument that measurements of SWB are not subject to the individual’s current mood (e.g. Diener et al. 1991; Oishi and Diener 1996; Veenhoven 1993). Veenhoven (1996) reviewed main studies which are devoted to testing these objects. Firstly, he finds that most respondents in the 10 studies do know whether they are happy or not. “Don’t know” responses and non-responses on these questions are infrequent. Secondly, he argues that other people’s opinions hardly impact on the respondents’ judgment, although it may takes place occasionally. Thirdly, some scholars maintain that the responses of randomly selected respondents in a personal interview setting versus an anonymous questionnaire were compared, revealing that respondents who complete the survey in an interview format are more likely to report higher life satisfaction (e.g. King and Buchwald 1982). Veenhoven offered opposite evidence to deny the assertion that some individuals may have a propensity to report higher life satisfaction. “It is quite possible that most people are truly satisfied with life” (Veenhoven 1996: 4).

Another doubt concerns concurrent validity which compares index on an instrument with performance on some other tests at about the same time. A recent cross-national multitrait-multimethld (MTMM) study on SWB reports an average validity coefficient of .94, which is quite high (Saris, van Wijk and Scherpenzeel 1998). Helliwell (2004) provided a strong and very convincing study with regard to the validity of self-report subjective well-being, using data from the WVS. He

\[ \text{For more details of concurrent validity, see the website:} \]
\[ \text{http://cancerweb.ncl.ac.uk/cgi-bin/omd?concurrent+validity} \]
presented a remarkable parallel between international averages for life satisfaction and suicide rates, with special attention to the benefits of world values survey data in order to determine the components of life satisfaction. He calculated means of many social-economic factors as well as life satisfaction which are included in the WVS data along country lines. It seems reasonable to apply suicide rates in the multivariate analysis to identify the reaction of components of subjective well in that suicide is observable and is the ultimate indication of individual dissatisfaction. The results confirm the assumption that the statistically significant determinants of life satisfaction equation are equally critical to suicide equation, and are of the opposite sign. In other words, the results clearly reveal that the determinants of life satisfaction were reversed and with comparable order and magnitude in suicide equation model. This empirical evidence strongly supports the validity of measuring self-report SWB with survey questions.

4.5.2 Reliability

With the emergence of happiness research in recent years, strongly rising number of studies have focus on aspects of subjective well-being with diverse measurements and scales. Within the context of happiness research, life satisfaction has emerged as a key variable of study. Accurate measurement of life satisfaction and subsequent interpretation of results requires that the assessment devices yield strong psychometric properties. In terms of consistent measurement, reliability estimates must be calculated with each administration, as changes in sample characteristics may alter the scale’s ability to generate reliable results.

The reliability of an indicator can be defined as its overall quality, i.e. its consistency and its ability to give the same results in repeated measurement. The most outstanding feature of reliability is the test-retest correlation of the specific measure under scrutiny. It is well-known that minor differences in circumstances and technical
features of the specific questionnaire used, affect the report level of SWB (Schwarz and Strack 1999: 62). When the same question is asked twice in an interview, responses are not always identical. Although single-question on SWB seem to measure what they are supposed to measure (Schwarz and Strack 1999), the test-retest correlation for most single-item measures is only about 0.40, reaching 0.66 when the same question is asked twice during the same one-hour interview (Andrews and Withey 1976). Kammann and Flett (1983) find that single-item questions under the instructions to consider “the past few weeks” or “these days” had reliabilities of .50 to .55 when asked within the same day. In general, the reliability of SWB measures as evidenced by test-retest correlation is substantially lower than that find for common microeconomic variables such as personal income (Krueger and Schkade 2007).

Some multi-item measurements of SWB have emerged in recent decades. Studies show that those advanced measures, such as multi-item questionnaires and Experience Sampling Method (ESM), produce more reliable SWB scores (see the overview in Krueger and Schkade 2007). But those scales are not of much feasibility for large-scale surveys due to the limitation of time and cost. Therefore, social scientists still prefer to a single-item question on SWB. Veenhoven (1984) believed that people answer the questions on SWB on the basis of an earlier judgement from memory and quick re-evaluation of life. People use various heuristics when making such instant judgements. After the private judgement, people may report their opinions in various ways. One source of bias is inherent to semantics; respondents interpret words differently due to diverse cultures, occasions, and educational background. However, he maintain that most of these biases are random, and balance out in large-scale surveys, where random error does not affect the accuracy of averages. Yet, the bias may affect correlations, random error “attenuates” correlations. To some extend, the effect of bias can be estimated and correlated (see Saris, van Wijk and Scherpenzeel 1998).
4.5.3 Missing data

As I mentioned earlier, the data for this analysis have many missing values due to changing questionnaires and other reasons like non-response. The survey of 1990 has missing data on the variables of political satisfaction and selected items of political distrust. Thus, these variables are not included in the OLS regression models and the first SEM model, but in the comparison between rural and urban sub-samples of 2000 in the second SEM model.

Apart from the missing questions in the survey of 1990, there is still incomplete information on most of variables. Little and Rubin (1987), among others, have demonstrated that it is dangerous to simply drop cases that have missing data. Substituting the mean makes problems since imputation can distort coefficients of association and correlation relating variables and estimating the values of dependent variables artificially may saliently disturb the regression results (see Allison 2002). Thus, I treat these missing values in two different ways. Firstly, 20 observations containing missing values on life satisfaction or financial satisfaction are deleted for all regression models (2% of total sample). For the analysis of structural equation model, 4 cases are not included in the first SEMs (S1) and 12 cases are not included in the second SEMs (S2).

Secondly, I replace the rest of missing values by using information on the other available variables. The other relevant variables can be used as instruments to predict these missing observations if they are correlated with the variables containing missing values and are uncorrelated with the error items (Allison 2002). In this analysis, I use multiple regression to predict the rest missing values. I regress certain variable with the missing observations on all of the other independent variables listed in Table 4.5 plus marital status, gender, and age that have complete data for that case. Using the estimated equation, this method produces a predicted value for that variable, and I can
use the value to replace the missing observation. The SPSS Missing Values Analysis (MVA) is used to estimate the missing values as well as relevant statistics.

Table 4.7 Summary of estimated results for the samples of 1990 and 2000

<table>
<thead>
<tr>
<th></th>
<th>N.</th>
<th></th>
<th></th>
<th>Estimated Mean</th>
<th>Estimated Std. D.</th>
<th>Missing Cases Count.</th>
<th>%</th>
</tr>
</thead>
<tbody>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Income*</td>
<td>981</td>
<td>3.21</td>
<td>1.71</td>
<td>3.21</td>
<td>1.72</td>
<td>19</td>
<td>1.9</td>
</tr>
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<td>3.95</td>
<td>2.16</td>
<td>3.96</td>
<td>2.16</td>
<td>7</td>
<td>0.7</td>
</tr>
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<td>2.82</td>
<td>0.94</td>
<td>2.82</td>
<td>0.94</td>
<td>4</td>
<td>0.4</td>
</tr>
<tr>
<td>Distrust in</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Press</td>
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<td>2.61</td>
<td>0.69</td>
<td>2.62</td>
<td>0.69</td>
<td>87</td>
<td>8.7</td>
</tr>
<tr>
<td>Police</td>
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<td>2.80</td>
<td>0.76</td>
<td>2.81</td>
<td>0.75</td>
<td>47</td>
<td>4.7</td>
</tr>
<tr>
<td>Government</td>
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<td>0.8</td>
<td>3.11</td>
<td>0.79</td>
<td>113</td>
<td>11.3</td>
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<td>Parliament</td>
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<td>3.24</td>
<td>0.85</td>
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</tr>
<tr>
<td>Civil service</td>
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<td>0.72</td>
<td>2.67</td>
<td>0.73</td>
<td>97</td>
<td>9.7</td>
</tr>
<tr>
<td>2000</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Income*</td>
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<td>5.87</td>
<td>2.07</td>
<td>5.9</td>
<td>2.08</td>
<td>46</td>
<td>4.6</td>
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<tr>
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<td>2.54</td>
<td>3.86</td>
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<tr>
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<td>2.79</td>
<td>1.01</td>
<td>2</td>
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<td>3.6</td>
<td>0.91</td>
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<td>5.9</td>
</tr>
<tr>
<td>Distrust in</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td>2.78</td>
<td>0.65</td>
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<tr>
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<td>0.71</td>
<td>2.81</td>
<td>0.71</td>
<td>18</td>
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</tr>
<tr>
<td>Government</td>
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<td>0.55</td>
<td>3.35</td>
<td>0.55</td>
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<td>1.6</td>
</tr>
<tr>
<td>Parliament</td>
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<td>3.27</td>
<td>0.58</td>
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<tr>
<td>Civil service</td>
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<td>0.63</td>
<td>2.72</td>
<td>0.64</td>
<td>280</td>
<td>28</td>
</tr>
<tr>
<td>TV</td>
<td>956</td>
<td>2.85</td>
<td>0.64</td>
<td>2.84</td>
<td>0.64</td>
<td>44</td>
<td>4.4</td>
</tr>
<tr>
<td>Party</td>
<td>928</td>
<td>3.22</td>
<td>0.58</td>
<td>3.20</td>
<td>0.59</td>
<td>72</td>
<td>7.2</td>
</tr>
<tr>
<td>DS</td>
<td>846</td>
<td>2.04</td>
<td>0.48</td>
<td>2.05</td>
<td>0.49</td>
<td>154</td>
<td>15.4</td>
</tr>
<tr>
<td>IS</td>
<td>848</td>
<td>2.23</td>
<td>0.57</td>
<td>2.23</td>
<td>0.57</td>
<td>152</td>
<td>15.2</td>
</tr>
<tr>
<td>SYS</td>
<td>955</td>
<td>7.01</td>
<td>2.21</td>
<td>7.01</td>
<td>2.21</td>
<td>45</td>
<td>4.5</td>
</tr>
</tbody>
</table>

Note: * , income here refers to the household income categories ranging from 1 to 10. For the details of other variables, see Table 4.2, 4.3 and 4.4.

Table 4.5 respectively presents the summary of estimated missing values for the samples of 1990 and 2000. Distrust in civil service has the largest group of missing
values (28%) in the sample of 2000. The substitution of missing values of this variable with regression estimates does not result in significant change in mean (2.73 to 2.72) and standardized deviation (.63 to .64). With regard to the other variables, the substitution hardly alters their means and standardized deviations. Nevertheless, Multiple regression may introduce biases in the data, though it is a “best guess” attempt to present what choices subjects are likely to have made, give their responses on other variables (Allison 2002). In this analysis, I report results mainly based on the imputed data but running the full regression models with all independent variables on both original data and imputed data, and discussing where imputation would cause a difference for the substantive interpretations.
Chapter 5 Results of Regression Models

Departing from potential explanations such as relative deprivation, anomie, and distrust, I employ the data described in Chapter 4 to answer the research questions proposed in the conclusion part of Chapter 3. To begin with, I investigate which of the negative drivers, if any, show increasing tendencies during transition, by comparing their distributions and means between 1990 and 2000. Secondly, I scrutinize which of the negative drivers are characterized by growing associations with life satisfaction by running a simple correlation analysis in both 1990 and 2000. Thirdly, I test the regression model of E1 with four sub-samples grouped in terms of regions and waves. The results can tell which of the negative drivers have impact on life satisfaction in every sub-sample. Next, I run the regression model of E2 with the pooled rural and urban sub-samples in order to find out which of the negative drivers have become statistically more influential for depressing life satisfaction in 2000 than in 1990. This should be reflected in some significant interaction effects between certain negative drivers and waves in the model. The final step will be a summary of these findings.

5.1 Descriptive analysis

In order to uncover in which social groups SWB show down-ward tendency and which variables show the same changes with SWB, I, at first, describe the distributions of life satisfaction, financial satisfaction, powerlessness, anomie value, interpersonal distrust, and political distrust among socio-economic groups. Afterwards, I use an associational analysis to reveal whether there are similar tendencies among SWB and the other factors. Based on the results, I assess the possibilities of these
factors being negative drivers.

Table 5.1 presents the means of life satisfaction and financial dissatisfaction among social groups. At first sight, no big differences between gender groups are found in each column. Nearly the same declining tendencies exist in both gender groups during transition.

All age groups, except the youngest, suffered salient declines in life satisfaction and financial satisfaction. Especially, the middle age group (40-50) experienced the biggest drops in life satisfaction (respectively $\Delta=-1.47$ in rural areas and -1.19 in urban areas) and financial satisfaction (respectively $\Delta=-.68$ in rural areas and -.96 in urban areas) nationwide, strongly suggestive of the “middle age problem”. In contrast, young people’s (younger than 30) subjective well-being seems not to be affected by the dramatic transformation. Average levels of life satisfaction were almost unchangeable during the period. Financial satisfaction even increased among urban young people ($\Delta=.66$) in the transition, while stood still among rural young residents. In addition, financial satisfaction clearly went up with age in 1990 but was not related to age groups in 2000. It suggests that political hierarchy favored older and experienced people but market benefited young people who quickly adapted to the new environment.

With respect to marital status, the married were much happier than the single and widowed across regions and waves, although all of them experienced decreases over time. The difference in financial satisfaction was salient between the two groups in 1990 but invisible in 2000.

The poorly educated people experienced much larger drops in life satisfaction than those with middle education. The highly educated people were influenced much less than other groups in cities. The highly educated groups in rural areas are too small to offer enough information. No salient differences in financial satisfaction are found among educational groups, but the declining tendency is clear in both regions.
### Table 5.1 Life satisfaction and financial satisfaction in China (1990 - 2000)

<table>
<thead>
<tr>
<th></th>
<th>Life satisfaction</th>
<th>Financial satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>7.55</td>
<td>6.70</td>
</tr>
<tr>
<td>Women</td>
<td>7.67</td>
<td>6.63</td>
</tr>
<tr>
<td>Age groups</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-30 yrs</td>
<td>6.72</td>
<td>6.50</td>
</tr>
<tr>
<td>30-40 yrs</td>
<td>7.80</td>
<td>6.56</td>
</tr>
<tr>
<td>40-50 yrs</td>
<td>8.18</td>
<td>6.71</td>
</tr>
<tr>
<td>50+ yrs</td>
<td>7.76</td>
<td>6.90</td>
</tr>
<tr>
<td>Partnership</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married/cohabiting</td>
<td>7.9</td>
<td>6.78</td>
</tr>
<tr>
<td>Single/widowed</td>
<td>6.43</td>
<td>5.86</td>
</tr>
<tr>
<td>Educational level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>7.93</td>
<td>6.6</td>
</tr>
<tr>
<td>Middle</td>
<td>7.25</td>
<td>6.76</td>
</tr>
<tr>
<td>high</td>
<td>(8)</td>
<td>(6)</td>
</tr>
<tr>
<td>Income</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lowest quartile</td>
<td>7.25</td>
<td>5.91</td>
</tr>
<tr>
<td>2nd quartile</td>
<td>7.48</td>
<td>6.38</td>
</tr>
<tr>
<td>3rd quartile</td>
<td>8.51</td>
<td>6.86</td>
</tr>
<tr>
<td>Highest quartile</td>
<td>7.23</td>
<td>7.40</td>
</tr>
<tr>
<td>Social Class</td>
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<td></td>
</tr>
<tr>
<td>Lower class</td>
<td>7.31</td>
<td>5.68</td>
</tr>
<tr>
<td>Low middle class</td>
<td>8.26</td>
<td>6.32</td>
</tr>
<tr>
<td>Middle class</td>
<td>7.24</td>
<td>7.13</td>
</tr>
<tr>
<td>Upper class</td>
<td>(8.00)</td>
<td>(7.86)</td>
</tr>
</tbody>
</table>

* ( ) denotes case numbers below 30

* All dependent variables are measured from 1-10 (high)

* Data: WVS China 1990 and 2000, own computations
In a word, most of social groups experienced declines in life satisfaction and financial satisfaction, while some did not. The similar tendencies in the two kinds of satisfaction strongly indicate the relationship between them and thus imply relative deprivation could be a promising explanation for China’s puzzle.

Unlike demographic factors, income and social class became determinant during the transition. Firstly, there are no salient growths of life satisfaction in all highest income groups, indicating their well-being at least has not been diminished, if not improved. Meanwhile for the other three income groups, life satisfaction dropped a lot in both cities and villages. The lowest quartile suffered the most significant decline (respectively $\Delta=-1.34$ in villages and $-1.57$ in cities). No wonder, higher income groups held higher levels of financial satisfaction. Nevertheless, only the highest income quartile enjoyed increases in financial satisfaction (respectively $\Delta=.40$ in villages and $.46$ in cities), while the rest income groups lost much satisfaction with their financial situation. These results hint that both low and middle income groups had less SWB in 2000 than in 1990.

Similarly, the relationship between social class and life satisfaction became stronger over time. The gaps between lower class and upper class were enlarged in the transition. In particular, urban lower class experienced the most serious drop in life satisfaction between 1990 and 2000 ($\Delta=-2.46$). The same changes took place for financial satisfaction. Lower class became less and less satisfied with its economic conditions in both regions, while middle class and upper class became more and more satisfied with their financial situations.

Table 5.2 displays the tendencies in four negative feelings supposed to be attributed to the Chinese puzzle. Among the rural population, feelings of powerlessness did not increase significantly over the last decade. The story is different for interpersonal distrust and anomic values, which are on the rise. Some groups show signs of increasing anomie, but others show signs of a decrease. Anomic value widely rose in rural areas too. Only middle income group and the highly educated had
slightly less anomic values. Almost all segments of the rural population held increased interpersonal distrust, with exceptions of highly educated people and the upper class which contain less than 30 cases. Similarly, political distrust was more prevalent among nearly all rural segments, with high income group and middle class – basically the winners of Chinese capitalism.

Now I take a closer look at the urban population, for which the main conclusion is somehow different: powerlessness and anomic value are the most plausible explanation. Unlike the rural population, many urban groups suffered more powerlessness between 1990 and 2000. The lower income groups and lower classes, basically the potential losers of Chinese economic transition, felt more powerless than before. Meanwhile, the potential winners like higher income groups and middle and upper classes believed they could better control over their lives than before. It supports Mertonian anomic theory that some social groups could suffer increased anomic, whereas others experience less.

Interpersonal distrust shows no clear tendency among social groups. Some tended to distrust others, but some not. Anomic value rose among most of social groups, although some increases are not significant. Especially, the lower income group and lower class held higher anomic values relative to higher income groups and middle class. It also gives evidence for Mertonian anomic theory that losers would feel deprivation in social change. However, distrust in political institutions has declined, not increased, among the urban population (in sharp contrast to the rural population, see above). Urban Chinese seem to vest more confidence in their leading institutions, given that they do a good job in managing the economy.
Table 5.2 Prevalence of negative feelings between 1990 and 2000

<table>
<thead>
<tr>
<th></th>
<th>Powerless (1-10)</th>
<th>Anomic Value (1.39-3.64)</th>
<th>Interpersonal distrust (0-1)</th>
<th>Political distrust (1-10)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Rural</td>
<td>Urban</td>
<td>Rural</td>
<td>Urban</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>-0.16</td>
<td>0.23</td>
<td>0.07</td>
<td>0.16</td>
</tr>
<tr>
<td>Women</td>
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<td>0.12</td>
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<tr>
<td>Age groups</td>
<td></td>
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<td>0</td>
</tr>
<tr>
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<tr>
<td>40-50 yrs</td>
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<td>-0.03</td>
<td>0.08</td>
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<td>50+ yrs</td>
<td>-0.27</td>
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<td>0.12</td>
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<td>Partnership</td>
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<td>Married</td>
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<td>0.09</td>
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<td>0.01</td>
<td>(-0.06)</td>
<td>0.16</td>
</tr>
<tr>
<td>Income</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lowest quartile</td>
<td>-0.45</td>
<td>0.71</td>
<td>0.16</td>
<td>0.16</td>
</tr>
<tr>
<td>2nd quartile</td>
<td>0.46</td>
<td>0.18</td>
<td>-0.03</td>
<td>0.03</td>
</tr>
<tr>
<td>3rd quartile</td>
<td>0.88</td>
<td>-0.19</td>
<td>0.13</td>
<td>0.02</td>
</tr>
<tr>
<td>Highest quartile</td>
<td>-0.71</td>
<td>-0.16</td>
<td>0.22</td>
<td>0.03</td>
</tr>
<tr>
<td>Social Class</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower class</td>
<td>-0.23</td>
<td>1.82</td>
<td>0.08</td>
<td>0.11</td>
</tr>
<tr>
<td>Low middle class</td>
<td>1.10</td>
<td>0.34</td>
<td>0.07</td>
<td>0.11</td>
</tr>
<tr>
<td>Middle class</td>
<td>-0.05</td>
<td>-0.17</td>
<td>0.12</td>
<td>0.04</td>
</tr>
<tr>
<td>Upper class</td>
<td>(0.38)</td>
<td>(-1.4)</td>
<td>(0.44)</td>
<td>(-0.11)</td>
</tr>
</tbody>
</table>

Note: ( ) denotes case numbers below 30; + indicate rising negative feelings (= negative development); - indicates declining negative feelings (= positive development).
Data: WVS China 1990 and 2000, self computations
The associational analysis reveals that the respective connection of financial dissatisfaction with life satisfaction has become much stronger over time (see Table 5.3). In combination with rising levels (see Table 4.2), the association of financial dissatisfaction with overall happiness has skyrocketed. The correlation coefficient was already considerable in 1990 (.41), but increased by 50% within one decade (.61). On the other hand, the extremely high correlation coefficient of -.73 indicates that the urban dwellers tend to equate material well-being with life satisfaction even more so than rural residents. This is perfectly in line with the fact that the coastal cities are the engines of China's economic boom, and that inequalities are felt more strongly there. This suggests that in the transition to free-market economy, money matters more than anything else for SWB.

Anomie might have also contributed to growing unhappiness in urban settings. The association with SWB stayed very much the same. Nevertheless, the overall increase in subjective powerlessness is less pronounced than financial dissatisfaction since the potential winners feel to have higher control over their own life. It speaks against powerlessness being the major explanation for China’s puzzle. Anomic value was negatively related to life satisfaction, although the correlation is statistically insignificant at the level of 0.05 in the rural sample of 1990. It was specially a good predictor for life satisfaction among urban dwellers in 1990, while it did not matter among rural dwellers. In 2000, the association was weakened but still significant. Given the wide increases in anomic value nationwide, anomic value could be another possible factor causing the decline in SWB. Taken together, the two components of anomie have variant associations with life satisfaction across regions in the course of transition.

For the components of social capital, interpersonal distrust became slightly less influential for life satisfaction in the countryside. Taking the changes of distrust into account, it could be a possible explanation for the declining SWB in rural areas. However, urban dwellers even did not link it to life satisfaction in 2000, although the
correlation is pronounced in the urban sample of 1990.

Table 5.3: Association between life satisfaction and independent variables

<table>
<thead>
<tr>
<th></th>
<th>Rural</th>
<th></th>
<th>Urban</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial dissatisfaction</td>
<td>-.41***</td>
<td>-.61***</td>
<td>-.42***</td>
<td>-.73***</td>
</tr>
<tr>
<td>Powerlessness</td>
<td>-.45***</td>
<td>-.34***</td>
<td>-.46***</td>
<td>-.48***</td>
</tr>
<tr>
<td>Anomic value</td>
<td>-.11</td>
<td>-.09*</td>
<td>-.22***</td>
<td>-.12*</td>
</tr>
<tr>
<td>Interpersonal distrust</td>
<td>-.16*</td>
<td>-.08*</td>
<td>-.12***</td>
<td>-.06</td>
</tr>
<tr>
<td>Systemic disaffection</td>
<td>-.09</td>
<td>-.08</td>
<td>-.21***</td>
<td>-.17***</td>
</tr>
</tbody>
</table>

Note: + : <0.1, * :< 0.05, ** :< 0.01, *** :< 0.001

Data: WVS China 1990 and 2000, self computations

Systemic disaffection seems to add nothing to this development. In the countryside, political distrust was weakly negatively related to life satisfaction. How people from the countryside think about China's political institutions has become largely unconnected from how happy they are with their lives. In contrast, the political realm kept its importance for SWB in cities, as the unchangeable correlation coefficients suggests. Unlike their rural compatriots, urban Chinese seem to be quite concerned with politics when thinking about quality of life. Table 5.4 summarizes the main findings discussed here in a simplified manner.
Table 5.4: Assessment of potential explanation for declining life satisfaction\textsuperscript{21}

<table>
<thead>
<tr>
<th></th>
<th>Rural</th>
<th>Urban</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Level-change</td>
<td>Association</td>
</tr>
<tr>
<td></td>
<td>with life</td>
<td>with life</td>
</tr>
<tr>
<td></td>
<td>satisfaction</td>
<td>satisfaction</td>
</tr>
<tr>
<td>Financial dissat.</td>
<td>General</td>
<td>Strong</td>
</tr>
<tr>
<td>Mixed; overall</td>
<td>increase</td>
<td>increase</td>
</tr>
<tr>
<td>Powerlessness</td>
<td>Mixed; overall</td>
<td>Slight</td>
</tr>
<tr>
<td></td>
<td>slight increase</td>
<td>decrease</td>
</tr>
<tr>
<td>Anomie value</td>
<td>Increase for</td>
<td>Slight</td>
</tr>
<tr>
<td></td>
<td>most groups</td>
<td>increase</td>
</tr>
<tr>
<td>Interpersonal distrust</td>
<td>Increase for</td>
<td>Slight</td>
</tr>
<tr>
<td></td>
<td>most groups</td>
<td>decline</td>
</tr>
<tr>
<td>Political distrust</td>
<td>General</td>
<td>Decline to</td>
</tr>
<tr>
<td></td>
<td>increase</td>
<td>insignificance</td>
</tr>
</tbody>
</table>

To sum up, relative deprivation is very likely to be the main driver of the recent happiness drop because financial dissatisfaction is the only negative feeling under consideration here that increased over time, both in level and association with life satisfaction. It turns out to be the most promising explanation, for two reasons: Firstly, the climate of economic growth and top-driven income inequality seems to stimulate social comparisons, which makes many Chinese less satisfied with their financial situation, rather than appreciating the absolute gains; and secondly, the income situation is now much more salient for overall life satisfaction than ten years ago.

\textsuperscript{21} The explanatory strategy of this table is partly learned from the paper by Brockmann, Dehley, Welzel and Yuan (2008).
5.2 Regression Results of Equation 1

In this section I explore whether these preliminary results proof to be robust in multivariate regressions. In this following analysis, a set of explanatory variables – powerlessness, anomic values, interpersonal distrust, political mistrust, income, social class, educational level and financial dissatisfaction – is used simultaneously. We also control for other individual characteristics usually connected to life satisfaction, namely gender, age, age² (to test for a curvilinear relationship with SWB), health state and partnership. I compute predictions of life satisfaction for both 1990 and 2000 and for both rural and urban residents in turn. For each year and region, I run an initial model which focus on income, then include social class and educational level, add further explanatory variables and finally financial dissatisfaction. At last, I test the full model on original data and then discuss the possible bias of substitution of missing data.

I first consider rural China. The base model for 1990 and 2000 (Model 1) reveals a small decrease in explained variance; adjusted R² drops from .16 to .11 (see Table 5.5 and Table 5.6). In Model 1, only health state holds significant effect. Absolute household income, gender, age, and age square have no strong associations with life satisfaction, once the other factors are controlled for. By contrast in 2000, the log of household income has a positive effect on life satisfaction. The higher income people have, the higher their satisfaction with life is. The increased importance of income for life satisfaction confirms that a free-market economy strengthens the effect of income in China (Hypothesis 1a). Additionally, living together with a partner as well as health state is important.
Table 5.5 Explaining life satisfaction for rural China in 1990

<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
<th>Model 4*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>b(t)</td>
<td>b(t)</td>
<td>b(t)</td>
<td>b(t)</td>
<td>b(t)</td>
</tr>
<tr>
<td>Sex (1=men)</td>
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</tr>
<tr>
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<td>(-0.01)</td>
<td>(-1.03)</td>
<td>(-0.28)</td>
<td>(-0.23)</td>
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<td>0.11</td>
<td>0.095</td>
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<td>0.079</td>
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<td>(1.59)</td>
<td>(1.38)</td>
<td>(1.38)</td>
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<td>-0.001</td>
<td>-0.001</td>
<td>-0.001</td>
<td>-0.001</td>
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<tr>
<td></td>
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<td>(-1.54)</td>
<td>(-1.48)</td>
<td>(-1.43)</td>
<td>(-1.42)</td>
</tr>
<tr>
<td>Married/with partner</td>
<td>0.58</td>
<td>0.72</td>
<td>0.54</td>
<td>0.54</td>
<td>0.57</td>
</tr>
<tr>
<td></td>
<td>(1.29)</td>
<td>(1.55)</td>
<td>(1.25)</td>
<td>(1.30)</td>
<td>(1.31)</td>
</tr>
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<td>Self-rated health</td>
<td>0.63***</td>
<td>0.63***</td>
<td>0.49**</td>
<td>0.45**</td>
<td>0.50**</td>
</tr>
<tr>
<td></td>
<td>(4.35)</td>
<td>(4.51)</td>
<td>(3.43)</td>
<td>(3.25)</td>
<td>(3.36)</td>
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<td>0.09</td>
<td>-0.01</td>
<td>-0.21</td>
<td>-0.24</td>
</tr>
<tr>
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<td>(0.21)</td>
<td>(0.52)</td>
<td>(-0.06)</td>
<td>(-1.22)</td>
<td>(-1.36)</td>
</tr>
<tr>
<td>Social class</td>
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<td>0.021</td>
<td>0.04</td>
<td>0.08</td>
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<tr>
<td></td>
<td>(0.21)</td>
<td>(0.12)</td>
<td>(0.25)</td>
<td>(0.45)</td>
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<tr>
<td>Education</td>
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<td></td>
<td></td>
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<td>-0.76**</td>
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<td>(0.41)</td>
<td>(0.04)</td>
<td>(0.15)</td>
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<td>Powerlessness</td>
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<td>-0.30***</td>
<td>-0.30***</td>
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<td>(-5.4)</td>
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<td>(-4.30)</td>
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<td>0.10</td>
<td>0.046</td>
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<td>(0.21)</td>
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<td>(0.11)</td>
<td></td>
<td></td>
</tr>
<tr>
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<td>-0.62*</td>
<td>-0.66*</td>
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</tr>
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<td>(-2.70)</td>
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<td>-0.05</td>
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<td>-0.18***</td>
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<td>(1.14)</td>
<td>(3.1)</td>
<td>(3.77)</td>
<td>(4.25)</td>
</tr>
<tr>
<td>Adjusted R²</td>
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<td>0.19</td>
<td>0.34</td>
<td>0.39</td>
<td>0.40</td>
</tr>
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<td>230</td>
<td>230</td>
<td>230</td>
<td>220</td>
</tr>
</tbody>
</table>

Note: Dependent variable: life satisfaction on a ten-point scale. Model 1-4 are tested with imputed data and Model 4* is tested with original data.

+ : <0.1, * : < 0.05, ** : < 0.01, *** : < 0.001

Data source: WVS China 1990
Model 2 includes additional 2 potential determinants of life satisfaction: social class and educational level. Now income loses its influence on life satisfaction. Instead, one can see an increased impact of social class on life satisfaction in 2000, with higher class being more satisfied with life than lower class. This was different at the beginning of the 90s, when social class was not important for life satisfaction. This suggests not only a rupture with the classless society of the communist past; it also mirrors the fact that social class reflects the amount of economic and social resources that a family has. The negative effects of education very much support hypothesis 2, highlighting the role of relative deprivation: In 1990, those with low education held higher life satisfaction than did those with middle education; such relationship disappeared in 2000 – no significant effect of education is found then.

Model 3 contains four variables respectively representing anomie theory and social capital theory. The negative impacts of both powerlessness and interpersonal distrust are much weaker, and for the latter even not significant. Anomic value and political distrust, however, did not reduce life satisfaction in both surveys (each time, the effects are not significant). The finding suggests that those two theories may not be good explanations for the declining life satisfaction in the countryside.

Model 4 presents strong effects of financial dissatisfaction on life satisfaction. With every additional step on the dissatisfaction ladder, life satisfaction would fall by 0.2 units in 1990 but almost half a unit (-.46) in 2000. The striking contrast supports my previous interpretation that whether rural Chinese assessed their financial situation as satisfying or not had increasing consequences for their appraisal of life. Money – or at least the related level of economic income – matters now more than any other objective conditions for life satisfaction. It is the growing financial dissatisfaction which has turned rural Chinese unhappy. With the most recent survey in 2000, Model 4 explains 45% of the variance in life satisfaction. The results very much support my previous interpretation, highlighting the role of relative deprivation: In 2000, financial dissatisfaction is by far the strongest barrier to happiness.
<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
<th>Model 4*</th>
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<td>b/t</td>
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<tr>
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<td>-.06</td>
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<tr>
<td>Age</td>
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<td>.001</td>
<td>.001*</td>
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<td>(1.91)</td>
<td>(2.11)</td>
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<td>.915*</td>
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<td>.84**</td>
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<td>(2.47)</td>
<td>(2.56)</td>
<td>(2.44)</td>
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<td>.54</td>
<td>.4***</td>
<td>.19*</td>
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<td>(5.43)</td>
<td>(3.94)</td>
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<td>.213</td>
<td>.19</td>
<td>.14</td>
</tr>
<tr>
<td></td>
<td>(4.01)</td>
<td>(2.09)</td>
<td>(1.59)</td>
<td>(1.28)</td>
<td>(0.86)</td>
</tr>
<tr>
<td>Social class</td>
<td>.61***</td>
<td>.61***</td>
<td>.16*</td>
<td>.23*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(5.02)</td>
<td>(4.96)</td>
<td>(1.74)</td>
<td>(2.19)</td>
<td></td>
</tr>
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<td>Education</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(0=Low education)</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Middle education</td>
<td>.01</td>
<td>-.07</td>
<td>.05</td>
<td>-.15</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-.04)</td>
<td>(-.33)</td>
<td>(0.29)</td>
<td>(-.88)</td>
<td></td>
</tr>
<tr>
<td>High education</td>
<td>-.81</td>
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<td>-.16</td>
<td>-.33</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-.96)</td>
<td>(-.91)</td>
<td>(-.23)</td>
<td>(-.47)</td>
<td></td>
</tr>
<tr>
<td>Powerlessness</td>
<td>-.26***</td>
<td>-.21***</td>
<td>-.18***</td>
<td></td>
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<tr>
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<td>(-6.33)</td>
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<td>(-4.99)</td>
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<td>-.35*</td>
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<tr>
<td></td>
<td>(-.91)</td>
<td>(-1.42)</td>
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<td>-.20</td>
<td>-.41*</td>
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<td>-.01</td>
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<td>(0.06)</td>
<td>(-.09)</td>
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<td>.86</td>
<td>4.5**</td>
<td>9.82***</td>
<td>8.92***</td>
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<td></td>
<td>(-.20)</td>
<td>(0.56)</td>
<td>(2.64)</td>
<td>(6.16)</td>
<td>(5.44)</td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>.11</td>
<td>.15</td>
<td>.23</td>
<td>.45</td>
<td>.45</td>
</tr>
<tr>
<td>N</td>
<td>618</td>
<td>618</td>
<td>618</td>
<td>618</td>
<td>516</td>
</tr>
</tbody>
</table>

Note: Dependent variable: life satisfaction on a ten-point scale.

*: <0.1, **: <0.05, ***: <0.01

Data source: WVS China 2000

Additionally, the full model is run on the original data to test whether the imputed
data create salient bias (*Model 4*'). Interpersonal distrust and anomie values, two variables with no missing values, display strong influence on life satisfaction in 2000, while their impacts are insignificant in Model 8. Nevertheless, these changes do not alter the coefficients of other variables, especially the variables with imputed data. Most of coefficients do not significantly differ from the estimates in Model 4, given the numbers of cases drop from 230 to 220 in 1990 and from 618 to 516 in 2000. Adjusted $R^2$ hardly changes when missing cases are dropped. These findings indicate that the imputation of missing data do not result in substantial bias in the rural sample.

For urban China, the story is basically the same, but in an even more extreme version (see Table 5.6 and Table 5.7). With regard to the base model (Model 1), one can see again the growing influence of household income (from .18 to .88). The effect of health is invariant across waves. Age and age-square become influential in 2000, where no gender differences are found. In contrast to rural China, the middle-age people are unhappier than younger and older ones. In the past, the political and social hierarchy of socialism obviously benefited the young and frustrated the older people in the labor market. The new opportunities for the former have equalized well-being across age groups. The elderly, who had retired or somehow left labor market, were less influenced by the capitalization of China. Moreover, a U-shaped relationship between age and life satisfaction is also in line with existing studies in other countries (e.g., Blanchflower and Oswald 2007).

The extended model (Models 2) show quite good explanatory power – the Adjusted $R^2$ is 0.31 in 1990 and 0.38 in 2000. Income still did not matter at all, after controlling over other variables. In sharp contrast, subjective social class, another indicator of social status, became more crucial to life satisfaction in 2000, though its impact is already statistically significant in 1990. Each step-down on the class ladder means a decrease in life satisfaction by .81 units in 2000, three times higher than that in 1990 (.20). These findings confirm *hypothesis 3b* that high social status has become more crucial to high life satisfaction since the transition.
Table 5.7: Explaining life satisfaction for urban China in 1990

<table>
<thead>
<tr>
<th></th>
<th>Model 1 b(t)</th>
<th>Model 2 b(t)</th>
<th>Model 3 b(t)</th>
<th>Model 4 b(t)</th>
<th>Model 4* b(t)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex (1=men)</td>
<td>.01</td>
<td>-0.02</td>
<td>0.071</td>
<td>0.19</td>
<td>0.15</td>
</tr>
<tr>
<td></td>
<td>(.10)</td>
<td>(-0.11)</td>
<td>(0.54)</td>
<td>(1.52)</td>
<td>(1.2)</td>
</tr>
<tr>
<td>age</td>
<td>-.06</td>
<td>-0.06</td>
<td>-0.07*</td>
<td>-0.05</td>
<td>-0.05</td>
</tr>
<tr>
<td></td>
<td>(-1.56)</td>
<td>(-1.54)</td>
<td>(-2.02)</td>
<td>(-1.52)</td>
<td>(-1.40)</td>
</tr>
<tr>
<td>age2</td>
<td>.001*</td>
<td>0.001*</td>
<td>.001*</td>
<td>.001</td>
<td>.001</td>
</tr>
<tr>
<td></td>
<td>(2.14)</td>
<td>(2.13)</td>
<td>(2.35)</td>
<td>(1.71)</td>
<td>(1.60)</td>
</tr>
<tr>
<td>Married</td>
<td>0.75**</td>
<td>0.75***</td>
<td>0.67**</td>
<td>0.54**</td>
<td>0.54*</td>
</tr>
<tr>
<td></td>
<td>(3.15)</td>
<td>(3.02)</td>
<td>(3.08)</td>
<td>(2.49)</td>
<td>(2.44)</td>
</tr>
<tr>
<td>Self-rated health</td>
<td>0.58***</td>
<td>0.56***</td>
<td>0.35***</td>
<td>0.30***</td>
<td>0.32***</td>
</tr>
<tr>
<td></td>
<td>(6.97)</td>
<td>(6.79)</td>
<td>(4.66)</td>
<td>(4.06)</td>
<td>(4.43)</td>
</tr>
<tr>
<td>Income, log</td>
<td>0.18</td>
<td>0.008</td>
<td>0.11</td>
<td>0.03</td>
<td>0.03</td>
</tr>
<tr>
<td></td>
<td>(1.37)</td>
<td>(0.05)</td>
<td>(0.81)</td>
<td>(0.19)</td>
<td>(0.19)</td>
</tr>
<tr>
<td>Social class</td>
<td>0.31***</td>
<td>0.20*</td>
<td>0.16</td>
<td>0.17</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(2.94)</td>
<td>(2.03)</td>
<td>(1.74)</td>
<td>(1.67)</td>
<td></td>
</tr>
<tr>
<td>Education (0=Low education)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Middle education</td>
<td>-0.03</td>
<td>-0.17</td>
<td>-0.15</td>
<td>-0.16</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-0.17)</td>
<td>(-1.04)</td>
<td>(-0.94)</td>
<td>(-0.97)</td>
<td></td>
</tr>
<tr>
<td>High education</td>
<td>-0.38*</td>
<td>-0.38*</td>
<td>-0.25</td>
<td>-0.25</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-2.05)</td>
<td>(-2.28)</td>
<td>(-1.54)</td>
<td>(-1.55)</td>
<td></td>
</tr>
<tr>
<td>Powerlessness</td>
<td></td>
<td></td>
<td>-0.37***</td>
<td>-0.29***</td>
<td>-0.3***</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(-9.37)</td>
<td>(-6.94)</td>
<td>(-7.10)</td>
</tr>
<tr>
<td>Anomic value</td>
<td>-0.52***</td>
<td>-0.42**</td>
<td>-0.42**</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-3.4)</td>
<td>(-2.85)</td>
<td>(-2.82)</td>
<td>(-2.10)</td>
<td></td>
</tr>
<tr>
<td>Interpersonal distrust</td>
<td></td>
<td></td>
<td>-0.24</td>
<td>-0.21</td>
<td>-0.22</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(-1.82)</td>
<td>(-1.62)</td>
<td>(-1.70)</td>
</tr>
<tr>
<td>Political distrust</td>
<td>-0.12**</td>
<td>-0.11*</td>
<td>-0.10*</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-2.57)</td>
<td>(-2.26)</td>
<td>(-2.11)</td>
<td>(-2.11)</td>
<td></td>
</tr>
<tr>
<td>Financial dissatisfaction</td>
<td></td>
<td></td>
<td>-0.20***</td>
<td>-0.20***</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(-5.72)</td>
<td>(-5.54)</td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>4.32***</td>
<td>5.25***</td>
<td>8.87***</td>
<td>10.74***</td>
<td>9.77***</td>
</tr>
<tr>
<td></td>
<td>(3.68)</td>
<td>(4.27)</td>
<td>(7.09)</td>
<td>(7.34)</td>
<td>(7.87)</td>
</tr>
<tr>
<td>Adjusted R2</td>
<td>0.11</td>
<td>0.12</td>
<td>0.31</td>
<td>0.35</td>
<td>0.35</td>
</tr>
<tr>
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<td>762</td>
<td>762</td>
<td>762</td>
<td>762</td>
<td>746</td>
</tr>
</tbody>
</table>

Note: Dependent variable: life satisfaction on a ten-point scale.

+: <0.1, *: <0.05, **: <0.01, ***: <0.001

Data source: WVS China 1990
Education shows some negative effect on life satisfaction in certain period. Generally, people’s education level is usually unchangeable after they finish the school education. The returns on education are also quite stable over time. And thus education normally has positive but weak effects on life satisfaction (Diener et al. 1993). In my data, education was a depressing factor for life satisfaction in 1990. Coefficients concerning educational level are negative in Model 2. It illustrates that egalitarianism in command economy made well educated people depressed. But the depressing effect did not show up in 2000, meaning that free-market economy rewards human capital with expected amount and wipes out the negative effect. These findings support the first part of Hypothesis 2 that unfair returns on education hurt those with higher education in an over-egalitarian society. In spite of being statistically insignificant, the positive effect of education in 2000 more or less supports the second part of Hypothesis 2 that life satisfaction would increase with educational level in market economy. A possible explanation could be that the expectation was adjusted in terms of the new free-market institutions and then the more returns on human capital was taken for granted.

With respect to Model 3, feelings of powerlessness also reduce life satisfaction among the urban population, but slightly weaker in 2000 than 1990 – t-value drops from -9.37 to -5.68. The unstandardized coefficients are nearly the same: One unit of powerlessness would cause -.37 units of decline in life satisfaction in 1990 and -.33 units in 2000. Anomic attitude was a weaker predictor in 2000 than in 1990. In the early stage of transition, it had strong influence on life satisfaction – an increase on the anomic attitude scale from 1 to 10 is able to reduce life satisfaction by 0.52 units. 10 years later, the negative effect was insignificant (p-value>.05). The findings indicate that anomic values have become less detrimental to individual life satisfaction over the transition period when they get prevailing.
Table 5.8 Explaining life satisfaction for urban China in 2000

<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
<th>Model 4’</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>b(t)</td>
<td>b(t)</td>
<td>b(t)</td>
<td>b(t)</td>
<td>b(t)</td>
</tr>
<tr>
<td>Sex (1 = men)</td>
<td>-0.22</td>
<td>0.08</td>
<td>-0.01</td>
<td>-0.10</td>
<td>-0.08</td>
</tr>
<tr>
<td></td>
<td>(-0.89)</td>
<td>(0.37)</td>
<td>(-0.04)</td>
<td>(-0.60)</td>
<td>(-0.46)</td>
</tr>
<tr>
<td>age</td>
<td>-0.21*</td>
<td>-0.14+</td>
<td>-0.17*</td>
<td>-0.08</td>
<td>-0.05</td>
</tr>
<tr>
<td></td>
<td>(-2.45)</td>
<td>(-1.71)</td>
<td>(-2.16)</td>
<td>(-1.33)</td>
<td>(-0.77)</td>
</tr>
<tr>
<td>age2</td>
<td>0.002*</td>
<td>0.002</td>
<td>0.002*</td>
<td>0.001</td>
<td>0.001</td>
</tr>
<tr>
<td></td>
<td>(2.38)</td>
<td>(1.60)</td>
<td>(2.03)</td>
<td>(1.20)</td>
<td>(0.52)</td>
</tr>
<tr>
<td>Married</td>
<td>1.09**</td>
<td>1.13***</td>
<td>1.08**</td>
<td>0.82**</td>
<td>0.78**</td>
</tr>
<tr>
<td></td>
<td>(2.47)</td>
<td>(2.89)</td>
<td>(2.95)</td>
<td>(2.93)</td>
<td>(2.59)</td>
</tr>
<tr>
<td>Self-rated health</td>
<td>0.68***</td>
<td>0.45**</td>
<td>0.24</td>
<td>0.07</td>
<td>-0.02</td>
</tr>
<tr>
<td></td>
<td>(4.65)</td>
<td>(3.28)</td>
<td>(1.84)</td>
<td>(0.72)</td>
<td>(-0.16)</td>
</tr>
<tr>
<td>Income, log</td>
<td>0.88**</td>
<td>0.13+</td>
<td>0.11</td>
<td>0.16</td>
<td>0.13</td>
</tr>
<tr>
<td></td>
<td>(2.93)</td>
<td>(1.78)</td>
<td>(1.54)</td>
<td>(0.86)</td>
<td>(0.68)</td>
</tr>
<tr>
<td>Social class</td>
<td>1.17***</td>
<td>0.81***</td>
<td>0.20</td>
<td>0.24</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(7.04)</td>
<td>(4.57)</td>
<td>(1.71)</td>
<td>(1.67)</td>
<td></td>
</tr>
<tr>
<td>Education (0 = Low education)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Middle education</td>
<td>-0.07</td>
<td>0.17</td>
<td>0.28</td>
<td>0.17</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-0.21)</td>
<td>(0.51)</td>
<td>(1.26)</td>
<td>(0.79)</td>
<td></td>
</tr>
<tr>
<td>High education</td>
<td>-0.04</td>
<td>0.26</td>
<td>0.18</td>
<td>0.10</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-0.10)</td>
<td>(0.6)</td>
<td>(0.58)</td>
<td>(0.30)</td>
<td></td>
</tr>
<tr>
<td>Powerlessness</td>
<td>-0.33***</td>
<td>-0.17***</td>
<td>-0.18***</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-5.68)</td>
<td>(-3.54)</td>
<td>(-3.61)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interpersonal distrust</td>
<td>-0.07</td>
<td>-0.16</td>
<td>-0.19</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-0.33)</td>
<td>(-0.92)</td>
<td>(-1.01)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anomic value</td>
<td>-0.41</td>
<td>-0.10</td>
<td>-0.27</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-1.88)</td>
<td>(-0.56)</td>
<td>(-1.55)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Political distrust</td>
<td>-0.19**</td>
<td>-0.07</td>
<td>-0.06</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-2.55)</td>
<td>(-1.19)</td>
<td>(-0.99)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Financial dissatisfaction</td>
<td>-0.57***</td>
<td>-0.58***</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(-11.8)</td>
<td>(-11.7)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>.80</td>
<td>3.08+</td>
<td>8.27***</td>
<td>10.9***</td>
<td>10.0***</td>
</tr>
<tr>
<td></td>
<td>(0.27)</td>
<td>(1.71)</td>
<td>(4.54)</td>
<td>(5.09)</td>
<td>(5.24)</td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>0.14</td>
<td>0.26</td>
<td>0.38</td>
<td>0.59</td>
<td>0.62</td>
</tr>
<tr>
<td>N</td>
<td>373</td>
<td>373</td>
<td>373</td>
<td>373</td>
<td>337</td>
</tr>
</tbody>
</table>

Note: Dependent variable: life satisfaction on a ten-point scale.

*: <0.1, +: <0.05, **: <0.01, ***: <0.001

Data source: WVS China 2000
Interpersonal distrust had no impact on life satisfaction across time, again indicating that the increased interpersonal distrust could not explain the declining life satisfaction. Political distrust was an important source of unhappiness in 1990 and 2000. Unlike rural dwellers, urban residents are closer to political system and have frequent interaction with public institutions. Their well-being, no doubt, more likely was influenced by their attitudes to those institutions. However, political distrust is unable to account for the decline in life satisfaction in that it had been diminished in cities (see Table 5.2).

As far as Model 4 is concerned, the impact of financial dissatisfaction on life satisfaction had skyrocketed among the urban population. It was already a considerable depressor in 1990, but has become the depressor ten years later. In 2000, each step-down on the financial satisfaction ladder by one rung means a decrease in happiness by .60 units. The full model explains 61% of the variance in happiness, remarkably high for individual-level analysis. The lion's share of it can be accounted for differences in financial dissatisfaction. As a result, money has become the most potent force for creating life satisfaction – or unhappiness. Besides, social class and political distrust lost their influence when financial dissatisfaction was taken into account.

Finally, the results from Model 4' do not significantly differ from the estimates in Model4. Adjusted R² is constant between Model 4 and Model 4' for urban China in 1990 (.35), whereas case number drops from 762 to 746. The explanatory power of Model 4' for urban China in 2000 (.62) is slightly stronger than that of Model 4 (.59) whereas sample size declines from 373 to 337. Similarly, these findings confirm that the substitution of missing values do not add significant noise to the data.
5.3 Regression estimates of Equation 2: Subjective Well-Being in Transition

In previous section, E1 uncovers which of independent variables have significant effects on life satisfaction in each sub-samples and the extent to which those variables impact on life satisfaction. Nevertheless, E1 can not tell whether the changes in the coefficients between 1990 and 2000 are statistically significant. Because discovering changes over time is the main concern of this analysis, I, thus, test another set of regression models (E2) with the pooled data to statistically examine the interaction effects of certain independent variables with years.

In this set of models, a dummy variable is used to indicate the years of 1990 and 2000 (1=year of 2000). And then variables of interaction effects are created with the potential negative divers multiplied by the dummy variable. In order to distinguish declining tendency of life satisfaction among the losers, I introduce several dummy variables to represent income groups and social classes. Accordingly, I choose the high income group, the middle class, the elderly and the middle education group as the reference groups. At first, financial dissatisfaction is not taken into account because of multi-collinearity (Model 5). The high values of Adjusted $R^2$, 0.32 for the rural and 0.34 for the urban, indicate that the model fits the data well. Afterwards, financial dissatisfaction is added (Model 6), resulting in great increases in adjusted $R^2$ (0.45 for the rural and 0.43 for the urban).

I firstly consider rural areas (see Table 6.9). The dummy variable of years has a strong and positive impact on life satisfaction (Beta=.41), indicating that, even if one controls for all other factors, the transition substantially improved SWB of the reference group which consists of highly educated people with high income and social status. That is, those rural top achievers were greatly better off during transition.
### Table 5.9 Influence of China’s Transition on SWB in rural area (1990-2000)

<table>
<thead>
<tr>
<th></th>
<th>Model 5</th>
<th></th>
<th>Model 6</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coef.</td>
<td>Beta</td>
<td>Coef.</td>
<td>Beta</td>
</tr>
<tr>
<td><strong>Income (0=highest)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-Middle</td>
<td>0.40</td>
<td>0.07</td>
<td>0.31</td>
<td>0.06</td>
</tr>
<tr>
<td>-Lower middle</td>
<td>0.25</td>
<td>0.05</td>
<td>0.24</td>
<td>0.05</td>
</tr>
<tr>
<td>-Lower</td>
<td>0.40</td>
<td>0.07</td>
<td>0.49</td>
<td>0.09</td>
</tr>
<tr>
<td><strong>Social class (0=highest and middle)</strong></td>
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</tr>
<tr>
<td>-Lower middle</td>
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<td>0.16</td>
<td>0.64*</td>
<td>0.13</td>
</tr>
<tr>
<td>-Lower</td>
<td>0.16</td>
<td>0.03</td>
<td>0.21</td>
<td>0.04</td>
</tr>
<tr>
<td><strong>Educational level (0=middle)</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>-high</td>
<td>0.6</td>
<td>0.05</td>
<td>0.59</td>
<td>0.05</td>
</tr>
<tr>
<td>-lower</td>
<td>0.65**</td>
<td>0.14</td>
<td>0.69**</td>
<td>0.15</td>
</tr>
<tr>
<td><strong>Powerlessness</strong></td>
<td>-0.30***</td>
<td>-0.35</td>
<td>-0.29***</td>
<td>-0.3</td>
</tr>
<tr>
<td><strong>Interpersonal distrust</strong></td>
<td>-0.50*</td>
<td>-0.11</td>
<td>-0.58*</td>
<td>-0.13</td>
</tr>
<tr>
<td><strong>Anomie value</strong></td>
<td>0.08</td>
<td>0.01</td>
<td>0.063</td>
<td>0.01</td>
</tr>
<tr>
<td><strong>Political distrust</strong></td>
<td>-0.06</td>
<td>-0.03</td>
<td>-0.04</td>
<td>-0.02</td>
</tr>
<tr>
<td><strong>Financial dissatisfaction</strong></td>
<td></td>
<td></td>
<td>-0.17**</td>
<td>-0.19</td>
</tr>
</tbody>
</table>

**Interaction effects:**

<table>
<thead>
<tr>
<th></th>
<th>Coef.</th>
<th></th>
<th></th>
<th>Beta</th>
</tr>
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<tbody>
<tr>
<td>Wave of 2000</td>
<td>0.8</td>
<td>0.17</td>
<td>1.91*</td>
<td>0.41</td>
</tr>
<tr>
<td>2000 * Income</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-2000* Middle</td>
<td>-1.03*</td>
<td>-0.14</td>
<td>-0.71+</td>
<td>-0.10</td>
</tr>
<tr>
<td>2000* Middle low</td>
<td>-0.90+</td>
<td>-0.14</td>
<td>-0.48</td>
<td>-0.07</td>
</tr>
<tr>
<td>- 2000* Lowest</td>
<td>-1.01+</td>
<td>-0.13</td>
<td>-0.53</td>
<td>-0.07</td>
</tr>
<tr>
<td>2000 * Class</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-2000* Low middle</td>
<td>-1.36**</td>
<td>-0.19</td>
<td>-0.86*</td>
<td>-0.12</td>
</tr>
<tr>
<td>- 2000* Lower</td>
<td>-1.38**</td>
<td>-0.17</td>
<td>-0.87+</td>
<td>-0.11</td>
</tr>
<tr>
<td>2000 * education</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>-2000* high</td>
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<td>-0.04</td>
<td>-0.74</td>
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<tr>
<td>- 2000* Lower</td>
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<td>-0.6+</td>
<td>-0.11</td>
</tr>
<tr>
<td>2000* powerlessness</td>
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<td>0.10</td>
<td>0.096</td>
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<tr>
<td>2000* anomic value</td>
<td>-0.2</td>
<td>-0.1</td>
<td>-0.35</td>
<td>-0.14</td>
</tr>
<tr>
<td>2000* interpersonal distrust</td>
<td>0.16</td>
<td>0.03</td>
<td>0.326</td>
<td>0.06</td>
</tr>
<tr>
<td>2000* political distrust</td>
<td>0.02</td>
<td>0.02</td>
<td>0.033</td>
<td>0.03</td>
</tr>
<tr>
<td>2000* financial dissatisfaction</td>
<td></td>
<td></td>
<td>-0.28***</td>
<td>-0.39</td>
</tr>
<tr>
<td><strong>Constant</strong></td>
<td>5.27***</td>
<td>.</td>
<td>6.42</td>
<td>.</td>
</tr>
<tr>
<td><strong>Adjusted R²</strong></td>
<td>0.32</td>
<td>0.45</td>
<td>0.45</td>
<td>0.45</td>
</tr>
<tr>
<td><strong>N.</strong></td>
<td>803</td>
<td>803</td>
<td>803</td>
<td>803</td>
</tr>
</tbody>
</table>

Note: Dependent variable: life satisfaction on a ten-point scale. The models control for gender, age, age², health and partnership. Weights are applied to adjust the unbalance sample sizes. For un-weighted estimates, see Appendix B.

+ : <0.1, * :< 0.05, ** :< 0.01, *** :< 0.001

With regard to income, the set of dummy variables for income groups used here, and in most other comparative studies, captures a mixture between an absolute and a relative income effect. The absolute income effect comes from the fact that those in high income group have, by construction, higher income and vice versa. However, there is also a relative effect, as I sort people according to their relative income position within their regions. By pooling across two waves of samples and grouping income groups in light of regions, those in the same income group may have quite different absolute income. In previous regression models, absolute income has no significant effect, after controlling over other variables like social class. But it is only partly true in this model: The effects are insignificant in 1990, but the interaction effects with the year of 2000 are very strong. Generally, a person entering the highest income category, from being in any other lower category, would achieve an increase in life satisfaction by about 1 unit in 2000, giving further evidence in confirmation of Hypothesis 1b.

Class identification has a negative impact on happiness in 1990: low middle class had even 0.8 units higher life satisfaction than upper and middle class. But the lowest and middle low classes suffered a statistically salient decline in happiness over time. The coefficient of the interaction effect of low middle class reaches -1.36, showing that lower middle class no long feels happier than the upper and middle class. The lower class, on average, had 1.22 units less life satisfaction (0.16-1.38=-1.22) than did the upper and middle class. These results confirm Hypothesis 3b. The findings are consistent with the results from Equation 1 – economic and social differences have much stronger effects on life satisfaction in 2000 than in 1990. In other words, these results strongly support a Mertonian version of anomie, while a Durkheimian effect is not proven. Regarding to human capital, poorly educated people were significantly happier than those with middle education in 1990. The negative effect was reduced by 0.5 units in 2000. This change well supports hypothesis 2.

As far as the anomic variables are concerned, powerlessness shows strong effects
over time. Its β value (0.4) is much higher than those of any other variables in the model. The interaction effect is negative but statistically insignificant. That is, the strong impact of powerlessness has not been undermined in the transition. As I have found in the descriptive statistics, powerlessness does not increase across the transition. Therefore, the decline in life satisfaction could not be attributed to powerlessness, though the two variables are highly associated. In contrast, interpersonal distrust showed a significant and steady negative impact on life satisfaction as it rose during the transition. This suggests that an increasingly feeling of interpersonal distrust might reduce life satisfaction, supporting Hypothesis 6b. Anomic value and political distrust, however, were unable to explain any meaningful variance of life satisfaction across time.

When I take financial dissatisfaction into account, many things, however, are changed. Above all, adjusted R² is also markedly improved by .13 (from .32 up to .45), compared to that of Model 5, indicating financial dissatisfaction is able to explanatory a great part of variance.

Financial dissatisfaction, as I expect, is highly related to life satisfaction. In the reference wave of 1990, one unit of financial dissatisfaction is able to reduce life satisfaction by 0.17 units. Its explanatory power (β=-.19) is smaller than powerlessness (β=-.30) but larger than other factors. The strong interaction effect of financial dissatisfaction (β=-.39) indicates that its importance has been soaring since 1990.

Other variables’ effects are more or less weakened when this variable is added. Economic inequality is much less subjectively destructive: only middle income group feels less satisfied at the significant level of .10. The effects of other two lower income groups and their interaction effects are reduced to insignificant. The coefficients concerning social class, powerlessness, marriage, and health are slightly smaller than those in Model 5.
Table 5.10 Influence of China’s Transition on SWB in urban areas, (1990-2000)

<table>
<thead>
<tr>
<th></th>
<th>Model 5</th>
<th></th>
<th>Model 6</th>
<th></th>
</tr>
</thead>
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<tr>
<td></td>
<td>Coef.</td>
<td>Beta</td>
<td>Coef.</td>
<td>Beta</td>
</tr>
<tr>
<td>Income (0=highest)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-Middle</td>
<td>-0.12</td>
<td>-0.03</td>
<td>-0.12</td>
<td>-0.02</td>
</tr>
<tr>
<td>-Lower middle</td>
<td>-0.05</td>
<td>-0.01</td>
<td>-0.06</td>
<td>-0.01</td>
</tr>
<tr>
<td>-Lower</td>
<td>-0.06</td>
<td>-0.01</td>
<td>-0.03</td>
<td>0.01</td>
</tr>
<tr>
<td>Social class (0=highest and middle)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-Lower middle</td>
<td>-0.15</td>
<td>-0.03</td>
<td>-0.10</td>
<td>-0.02</td>
</tr>
<tr>
<td>-Lower</td>
<td>-0.54*</td>
<td>-0.09</td>
<td>-0.40+</td>
<td>-0.07</td>
</tr>
<tr>
<td>Educational level (0=middle)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-high</td>
<td>-0.20</td>
<td>-0.03</td>
<td>-0.12</td>
<td>-0.02</td>
</tr>
<tr>
<td>-lower</td>
<td>0.18</td>
<td>0.03</td>
<td>0.19</td>
<td>0.04</td>
</tr>
<tr>
<td>Powerlessness</td>
<td>-0.37***</td>
<td>-0.36</td>
<td>-0.31***</td>
<td>-0.30</td>
</tr>
<tr>
<td>Interpersonal distrust</td>
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<td>-0.05</td>
<td>-0.23+</td>
<td>-0.05</td>
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<tr>
<td>Anomie value</td>
<td>-0.53***</td>
<td>-0.11</td>
<td>-0.45***</td>
<td>-0.09</td>
</tr>
<tr>
<td>Political distrust</td>
<td>-0.12*</td>
<td>-0.09</td>
<td>-0.10+</td>
<td>-0.07</td>
</tr>
<tr>
<td>Financial dissatisfaction</td>
<td></td>
<td></td>
<td>-0.20***</td>
<td>-0.22</td>
</tr>
<tr>
<td>Interaction effects:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wave of 2000</td>
<td>-0.02</td>
<td>0</td>
<td>0.15</td>
<td>0.03</td>
</tr>
<tr>
<td>2000 * Income</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-2000* Middle</td>
<td>-0.20</td>
<td>-0.02</td>
<td>0.34</td>
<td>0.05</td>
</tr>
<tr>
<td>-2000* Middle low</td>
<td>-0.69</td>
<td>-0.06</td>
<td>0.11</td>
<td>0.01</td>
</tr>
<tr>
<td>2000 * Lowest</td>
<td>-0.65</td>
<td>-0.07</td>
<td>0.15</td>
<td>0.02</td>
</tr>
<tr>
<td>2000 * Class</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-2000* Low middle</td>
<td>-0.65*</td>
<td>-0.07</td>
<td>-0.21</td>
<td>-0.03</td>
</tr>
<tr>
<td>- 2000* Lower</td>
<td>-1.03*</td>
<td>-0.09</td>
<td>0.03</td>
<td>0.004</td>
</tr>
<tr>
<td>2000 * education</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-2000* high</td>
<td>0.22</td>
<td>0.02</td>
<td>0.07</td>
<td>0.01</td>
</tr>
<tr>
<td>- 2000* Lower</td>
<td>-0.38</td>
<td>-0.03</td>
<td>-0.49+</td>
<td>-0.06</td>
</tr>
<tr>
<td>2000* powerlessness</td>
<td>0.05</td>
<td>0.05</td>
<td>0.13*</td>
<td>0.15</td>
</tr>
<tr>
<td>2000* anomic value</td>
<td>0.11</td>
<td>0.03</td>
<td>0.24</td>
<td>0.10</td>
</tr>
<tr>
<td>2000* interpersonal distrust</td>
<td>0.15</td>
<td>0.02</td>
<td>0.02</td>
<td>0.003</td>
</tr>
<tr>
<td>2000* political distrust</td>
<td>-0.1</td>
<td>-0.09</td>
<td>0.02</td>
<td>0.02</td>
</tr>
<tr>
<td>2000* financial dissatisfaction</td>
<td>-0.37***</td>
<td></td>
<td>-0.52</td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>11.3***</td>
<td></td>
<td>11.2***</td>
<td></td>
</tr>
<tr>
<td>Adjusted R^2</td>
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<tr>
<td>N</td>
<td>1115</td>
<td>1115</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: Dependent variable: life satisfaction on a ten-point scale. The models control for gender, age, age^2, health and partnership. Weights are applied to adjust the unbalance sample sizes. For unweighted estimates, see Appendix C.

+**: <0.1, *:* < 0.05, **: < 0.01, ***: < 0.001

Referring to urban areas, the pattern is a bit different. Table 5.10 shows the interaction effects between independent variables and time period in cities. Hypotheses about the interactive effect of socio-economic factors and the transition attain support from the significant findings concerning the outcomes of 1990. Above all, the reference group, who has middle education, high household income, and high subjective social class, experienced no change in life satisfaction between 1990 and 2000. This indicates that the transition to free-market economy failed to make the winners more satisfied with their lives, though it constantly benefited the elite group. It somewhat support Durkheimian expectation that rapid social change could result in unlimited aspiration for economic possessions.

The interaction effects are much clearer for the urban sample. In 1990, there was no big difference in life satisfaction between these income groups. At the later stage of transition, income inequality became an important cause of inequality in life satisfaction. That is, the difference in life satisfaction between lower and higher income groups markedly increased in 2000. It supports hypothesis 1b that decline in relative income would cause less life satisfaction in China during the transition. Similarly, social inequality has caused more depression in the society. Low class additionally lost 1.03 units of life satisfaction in the transition, even though it was already less happy than those in the middle of the society or above.

Powerlessness is capable to constantly decrease life satisfaction in the transition, in view of the consistently significant effects (β=-.36). Its effect even is nearly the same with that in the rural sample. Both path coefficients and beta values are respectively close across regions. Interpersonal distrust is less important in urban areas than in rural areas, but still significant at the level of 0.10, whereas its interaction effect with time is insignificant. Differences in anomic value constantly affect urban dwellers’ life satisfaction over time. It, however, differs from the findings for rural samples (see Table 5.7). Moreover, the impact of anomic value on life
satisfaction, at least compared to the other variables in the model, is not trivial. For instance, its beta value is greater than those of political distrust, interpersonal distrust, and social class. In a word, anomie is associated with lower life satisfaction in cities as it spreads in the transition.

The results of Model 6 for urban sub-samples lent the most prominent evidence for hypothesis 1c and hypothesis 1d on the increasing negative effect of relative deprivation on life satisfaction. The contribution of perceived dissatisfaction with financial situation (β=-.22) was less than powerlessness at the early stage of transition, reflecting the dominating socialist regime. The particularly strong interaction effect of financial dissatisfaction and the period of transition (β=-.52) reveals the fact that declining relative income has become the major determinant of diminished life satisfaction. One step-up on the financial dissatisfaction ladder by one rung means a decrease in life satisfaction by .20 units in 1990. The transition to free-market economy brought additional decline in life satisfaction by .37 units. Totally, each unit of financial dissatisfaction results in .57 units of increase in life satisfaction. These effects in the two waves are as strong as those estimated from Model 4.

5.4 Discussion and Conclusion

Over the decade from 1990 to 2000, China was characterised by a paradox combination of massively improving living standards, but declining SWB. This cannot be explained by the Easterlin’s paradox and it is in plain contradiction to the established wisdom that particularly steep gains in well-being occur with material improvements at low standards of living. Three alterative approaches, “frustrated achievers,” anomie, and political distrust, have the potential to resolve this puzzle, so I tested these approaches empirically.
The concept of frustrated achievers draws on reference group theory, providing a specific version of the idea of relative deprivation. In a successful economic transition most people experience a considerable income gains in absolute terms, which should boost happiness. Yet relative to where the population mean is shifting, many find themselves in a less favorable position than before, which raises relative deprivation and reduces life satisfaction. This is exactly what has happened in China. To test for this explanation, I introduce the variables of financial dissatisfaction, relative income position and subjective social position to uncover the association between relative deprivation and life satisfaction and its tendency.

Firstly, I respectively divide the rural and urban population into four income groups so as to catch the changes of life satisfaction within different income groups as economic inequality increases in the course of transition. The results show no difference in life satisfaction can be attributed to economic inequality in the early stage of transition, when economic and social positions were set by political hierarchy rather than market.

Free market economy broke the equal distribution system to which people had gotten used in centrally planned economy. With the pervasion of market economy, people gained more income freedom and economic inequality soared. A group of people who had high social and political resources legally or illegally accumulated a large amount of wealth during transition, while the rest only moderately or hardly benefited. Those who failed to get the same increase in income as their reference groups did would feel greatly frustrated when they found that their ex-colleagues or other people, who once earned the same salary as they did before the transition, earned much more than they did. The top achievers held, at least, no less life satisfaction than before, whereas low income groups suffered extremely lower level of life satisfaction. These findings provide evident that an increase in absolute income would not necessarily raise life satisfaction but a drop in relative income stand a chance of depressing people’s satisfaction with life.
Similarly, social polarization was deteriorating during transition. Low social security and increased inequality made low social groups less satisfied, though objective living conditions, on average, had been more or less improved during transition. Those with lower social status, less education and no political privilege certainly felt less satisfaction relative to high social class. Thus, economic growth didn’t bring Chinese higher average level of life satisfaction but lower.

Regarding to educational level, poorly educated people even held higher life satisfaction than the other two educational groups in 1990. It is explainable by notion that education, or human capital, was unable to attain expected rewards in an artificially compressed society. Only 10 years later, the negative effect disappeared. On the contrary, it even showed a bit positive appraisals of life situation although insignificant: highly educated groups held slightly higher life satisfaction than other two groups. It reflects that market economy clearly benefited those who had more competences and human capital, especially those who had college education experiences. The ability to learn and acquire modern skills and techniques required for the new modern firms which occurred after the reunification depends on having some degree of formal education and occupational training. Obviously, those with higher human capital were easier to adapt to the new technical and institutional environment and thus achieved greater success and higher well-being.

Financial dissatisfaction is considered as a major proxy for relative deprivation in regression models. It is assumed that in a booming economy people would report high levels of financial dissatisfaction if they see their income position moving in a more disadvantaged position, relative to average income. Consequently, declining life satisfaction would be paralleled and caused by increasing financial dissatisfaction and the negative effect of the latter on life satisfaction would increase over time, so that relative deprivation would hurt more in times of rising income inequality. Support for the hypotheses shows that people’s life satisfaction was negatively correlated with their dissatisfaction with financial situation and the association increased dramatically
during the economic transition. Rising relative deprivation turned these people into 'frustrated achievers' – people who have achieved higher incomes in absolute terms but are dissatisfied when it comes to their income position relative to others. Financial dissatisfaction A fast-paced commodification of a growing number of areas of life makes financial dissatisfaction the strongest depressor of life satisfaction.

This explanation has been tested against two alternatives. To be sure, some sort of negative feelings must gain ground in order to make people less satisfied with their lives. Relative deprivation is just one of several possibilities. Some hypotheses are tested through the frame of anomie theory. I measure anomie with two indicators: feelings of powerlessness and anomic values. Feeling of powerlessness, on the average, remained stable in China. Some social groups lost, while the others indeed attain more. Meanwhile, it has become somewhat less consequential for subjective well-being during the economic transformation in the cities, while the change was not salient in the countryside. In a word, powerlessness is powerful for life satisfaction, but not as strong as deprivation.

Anomic value, as expected, prevalently rose in rapid social change. However, it did not undermine people’s life satisfaction in the countryside but did in cities, though the effect is moderate. Thus, I conclude that the factor of anomic value played moderate impact on life satisfaction and could not substantially account for China’s puzzle.

Interpersonal distrust seems to have stronger negative influence on farmer’s life satisfaction in this period, as it increased in both rural and urban areas. However, no clear evidence is found to support that increased political distrust could account for the declining subjective well being. Political distrust widespreads in the countryside where the correlation between political distrust and life satisfaction was weak. For the urban areas, although political distrust was able to lower the level of life satisfaction, the average level of political distrust declined. In other word, more people believed that public institutions were creditable in that the great achievement in economy
served to enhance public’s support for government (Wang 2005). Logically speaking, declining life satisfaction should be accompanied with increasing political distrust, given the hypothesis was true. Thus, political distrust seems to gain no ground for the China puzzle, although it bears on people’s satisfaction.

To sum up, the hypothesis of “frustrated achievers” obtains the strongest support from the regression results, albeit without forceful evidence against anomie and distrust as outlined here. In fact, I have to exclude a great deal of available information on SWB, anomie and distrust due to the limitation of OLS regression model. Firstly, financial satisfaction is included as an independent variable because only one dependent is allowed in regression model. But financial satisfaction might be highly dependent on economic conditions (Wang 2005). The OLS regression models are not capable to examine these relationships. Its mediating role, thus, has not been tested so far.

Secondly, political distrust is included as a sum of distrust in government, parliament, press, police and civil service, assuming that the five indicators contribute to political distrust equally. Although many studies have adopted this index as an accessible measurement (e.g., Belanger and Nadeau 2005), Paxton (1999) insists that it might not properly capture the general concept of political distrust, which consists of many dimensions. In particular, China’s economic transition has not been accompanied with a political reformation, which differs from most of ex-communist countries. Thus, the change in Chinese political attitudes and its effect on SWB are especially of my interest. Thus for a better understanding of political distrust, a confirmatory factor analysis treating the indicators unequally is highly needed (Paxton 1999: 105).

Thirdly, Table 5.2 and Table 5.3 have shown that income, social class, powerlessness and financial dissatisfaction probably are highly correlated or have nearly the same predictive power, which causes multi-collinearity. Income, and social class could be linearly dependent on each other; powerless and social class could also
be highly correlated. In the regression model, I use several models in which these variables are introduced step by step in order to diminish the influence of multi-collinearity. Nevertheless, the estimates in those models still could be more or less biased due to the limitation of regression analysis.

Finally, by using single observed variables, I cannot take measurement error into account. Measurement error represents both inaccuracy in participant responses and their measurement, as well as inaccuracies in the representation of the theoretical concept by the observed variables (Zheng and Frey 2005). Many factors like non-response, badly designed questionnaires, respondent bias and processing errors could cause measurement errors in a survey. Jöreskog and Sörbom (1989) suggest that covariance-based techniques like Structural Equation Modeling (SEM) can well test the models containing variables with measurement error. Thus, in the following chapter, I apply structural equation model in order to control for the influence of measurement error and to take further analyses on political distrust, powerlessness, social class, income and SWB.
Chapter 6 Results from Structural Equation Models

In this chapter, I adopt SEM to test the relationships among the highly correlated variables and use financial satisfaction, the reversion of financial dissatisfaction, as a mediator between life satisfaction and environmental predictors. Due to the limitation of small sample size, I have to exclude the rural sub-sample of 1990 from the analysis. Thus, I conduct two comparisons: the first SEM compares two urban sub-samples of 1990 and 2000; the second compares rural and urban sub-samples of 2000. In these models, life satisfaction is the dependent variable and financial satisfaction is dependent on other predictors but impacts on life satisfaction. With regard to independent variables, I include only four variables such as income, social class, powerlessness and health state, which are found to strongly determine life satisfaction in regression models, while excluding anomic values and interpersonal distrust as well as other demographic variables like age, gender, partnership and education, which are only moderately or insignificantly influential for SWB.

6.1 Subjective well-being in China’s cities: a comparison between the urban sub-samples of 1990 and 2000

A two-step process was employed because of the complexity of the empirical test (see Arbuckle 2006; Bryne, 2003; Jöreskog, 1993. In the first step, the measurement models were tested via Confirmatory Factor Analysis (CFA) and were modified as necessary. And then data is divided into two groups in order to test the invariance in the parameters of the CFA model across the urban samples of 1990 and 2000. In the second step, the data are examined with the multi-indicator-multi-causal model in
order to find out the change in the causal relations between political distrust and subjective well-being. In addition, four exogenous variables (income, powerlessness, social class and health) are added to the Multiple Indicator Multiple Cause (MIMC) model.

6.1.1 Measurements of analysis

1. Analytic method and strategy

According to Diener’s recommendations, the multiple-variable measurement is supposed to be better than the single-variable measurement for happiness research (Diener and Suh 2003). Thus, dependent variables for this model are global satisfaction with life and domain satisfactions with financial situation. I assume a causal relationship between financial satisfaction and life satisfaction and link them to SWB. Life satisfaction is the indicator of cognitive judgment of live state; financial satisfaction is the indicator of domain satisfaction (for the distributions of these variables, see Table 4.2 and 4.3).

Apart from indicators of SWB, political distrust is included as a latent variable. It is measured with five observed indicators: distrust in government, distrust in parliament, distrust in civil service, distrust in police system, and distrust in press. Each of these variables is created by directly asking people whether or not they have distrust in these institutions. Table 4.3 displays the distribution of these five indicators in the two urban samples of China. These five indicators refer to a dimension I view as most characteristic, the politic disaffection. In fact, Paxton (1999) termed this dimension as a part of “social capital”. I extend his measurement and include more indicators. Thus, I formulate five corresponding hypotheses in terms of the items: the
higher the political distrust of a person, the higher the probability that he or she would distrust in the institutions such as central government, parliament, civil service, police, and press.

In order to identify if the items assigned to these latent variables are actual indicators of the factors, I firstly run a Confirmatory Factor Analysis (CFA). CFA is a procedure that investigates relations between sets of latent and observed variables (Byrne 2001). In this approach, covariation among the observed variables is examined to determine their underlying latent factors. Subscales should have high factor loadings if they are in fact indicators of SWB since factor loadings reflect the correlation between the indicator and the factor. It ranges from -1 to 1, whereas a value of zero refers to no relation and values nearest to positive or negative one signify strong correlations. Loadings of .5 or more are considered good and loadings between .4 and .5 are acceptable. Any loading that is less than .4 is unacceptable and is not a good indicator of the factor it is meant to represent (Pedhazur and Schmelkin 1991).

2. Testing for factorial validity

To examine the strength of the links between constructs and items, the measurement models for the latent constructs political distrust and SWB are estimated simultaneously. I use confirmatory factor analysis (CFA) to test whether political distrust could be measured with the five observed indicators. Life satisfaction, financial satisfaction, social class, income, health and powerlessness have not been taken into account in this model because of the assumption of a one-to one relationship between the latent constructs and their sole indicators: it is necessary to assume, in other words, that the observed variables, social class and powerlessness, are respectively identical with their latent variables. The simultaneous estimation of
the measurement models allows the examination of the relations between the relations between the items and their latent constructs as well as the relations between constructs themselves. Furthermore, one also gets information on whether the items load only on their target variables or on other dimensions. At first, I use a congeneric model where all the parameters are freely estimated. However, alternative model specifications are also possible. What kind of model (congeneric, tau-equivalent, parallel or strictly parallel) will be used in an analysis must be decided for every single case with consideration to the theoretical state and the empirical results (Jöreskog 1971).

As shown in Figure 6.1, a priori specification of my CFA model would allow the variables of distrust in institutions to load freely on political distrust, but they are restricted to have zero loadings on the latent variable SWB. If the CFA model fits the data, links between latent factors and their own indicators are confirmed. They are concerned to the extent to which the observed variables are represented by the underlying latent constructs. The strength of the regression paths (coefficient) reflects the closeness of factors and observed variables (the factor loadings).

The model is based on maximum-likelihood estimation. A first converged solution is displayed in Figure 6.1, but achieved a relatively poor model fit (Chi-square $\chi^2_{M}(5)$=92.9, p<0.001, CFI=.934, RMSEA=.125 with the 90% distrust interval .103-.147).

After checking the modification indices and the standardized factor loadings, I find that the error items of the indicators “distrust in civil service”, “distrust in press” and “distrust in police” are highly correlated. Therefore, the initial CFA model is modified by using two latent variables to represent political distrust. That is, the first latent variable of political distrust is measured with distrust in central government and distrust in parliament, termed “distrust in central institutions” (DCI); the second is measured with distrust in civil service, distrust in police, and distrust in press, named “distrust in specific institutions” (DSI). The modified model is evaluated again. The
goodness of fit of this model improves substantially: Chi-square $\chi^2(4)=12.1$, $p=0.017$, CFI=.994 RMSEA=0.042 with the 90% distrust interval .016-.071.

Figure 6.1 Path diagram for the initial CFA model of political distrust

![Path diagram for the initial CFA model of political distrust](image)

Note: PARL, distrust in parliament; GOV, distrust in central government; POLICE, distrust in police; PRESS, distrust in press; Service, distrust in civil service; PD, latent factor for political distrust. Standardized factor loadings are shown.

Furthermore, a residual correlation between POLICE and SERVICE is introduced to the model after an analysis of the modification indices, significant tests, standard errors, and several intermediate model modifications and consideration of empirical and theoretical implication. The final model is regarded as the best fitting to the data. Values of selected fit indexes are as follows: Chi-square $\chi^2(3)=2.3$, $p=0.518$, CFI=1.000 RMSEA=0.000 with the 90% distrust interval .000-.045. The derived correspondence hypotheses for all the constructs are supported: The factor loadings are statistically significant ($p<0.01$) and the corresponding signs concur with the hypotheses. All standardized factor loadings ranging from 0.53 to 0.83, confirm the formal validity of the individuals items (see Bollen 1989). All of these correlations are statistically acceptable. The results of the simultaneous estimation of the measurement models for all the three constructs are presented in Figure 6.2.

No doubt that the correlation of .72 between DCI and DSI is considerable. The significant correlation between the residuals of SERVIC and POLICE indicates that
there is a systematic connection between them. Various reasons may be responsible for this connection: similar semantic formulations of the items, equal or similar scales, or common reaction tendencies such as personality, among others. A precise diagnosis concerning these alternative explanations is often difficult or even impossible without introducing further indicators.

Figure 6.2 A measurement model of political distrust in pooled samples of 1990 and 2000

Note: DCI, latent variable for confidence in central institutions; DSI, latent factor for confidence in specific institutions. For the identification of the other variable labels see

My research target is to test for invariance over time. Before testing the invariance over time, I should first examine whether the indicators measure the same construct across different groups. Therefore, the modified CFA model is taken as a baseline model for a multi-sample CFA. It is possible that political distrust means something different in 1990 than in 2000. If so, then group membership moderates the relation between the indicators and factors specified in the measurement model. The evaluation of measurement invariance typically involves a comparison of the $\chi^2$ statistic of the CFA models, one with cross-group equality constraints imposed on
some of its parameters and the other without constraints. In this analysis, I constrain
the unstandardized factor loadings to be equal over time. If the fit of the model with
equality-constrained factor loadings is not statistically worse than that of the
unconstrained model, the measurements of the constructs may be invariant across the
groups.

If the $\chi^2$ statistic of the constrained model is considerably larger, however, then
individual unstandardized factor loadings should be compared between the two
groups to determine the extent of partial measurement invariance; that is, some factor
loadings may vary appreciably across groups, but the values of others do not. Besides,
I do not assume that variances or covariances would be unchangeable because groups
are expected to differ in the variability on the causal relations among the factors.

First, the factor variances and covariance are freely estimated in each sample in
the unconstrained model. The analysis of the model converges to an admissible
solution, and values of selected fit indices are $\chi^2_{M}(6)=9.4$, $p=.153$, CFI=.998, and
RMSEA=.022 with the 90% distrust interval .000-.048. All indices are favorable.

To test the diversity of the parameters across the samples, I apply several
constrained models step by step. In the initial fully-constrained model, I assume that
invariance across all model parameters; that is, cross-group equality constraints are
imposed on the estimates of 7 variances (of 2 factors and 5 measurement errors), 1
factor covariances, 1 error item covariances, and 3 factor loadings. This specification
reflects measurement invariance in the strictest sense. Because only one estimate of
each above-mentioned parameter is required when equality is assumed for the two
waves, a total of 12 parameters are estimated with 30 observations across both
samples (i.e., df=18). Values of selected indices of goodness of fit are as follows:
$\chi^2(18)=138.9$, $p=.000$, CFI=.911, and RMSEA=.077 with the 90% distrust
interval .065-.089. Based on these results, the fully-constrained model that assumes
equal estimates for all model parameters across samples of 1990 and 2000 is rejected.
Table 6.1 Maximum likelihood Parameter Estimates for Analysis of the measurement weights constrained model of political distrust  
(1990 and 2000)

<table>
<thead>
<tr>
<th></th>
<th>1990</th>
<th></th>
<th></th>
<th>2000</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coef.</td>
<td>SE</td>
<td>Beta</td>
<td>Coef.</td>
<td>SE</td>
<td>Beta</td>
</tr>
<tr>
<td>Equality-constrained estimates of factor loadings</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PARL &lt;- DCI</td>
<td>1</td>
<td>0.81</td>
<td>1</td>
<td>0.83</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GOVERN &lt;- DCI</td>
<td>0.85***</td>
<td>0.04</td>
<td>0.77</td>
<td>0.85***</td>
<td>0.04</td>
<td>0.79</td>
</tr>
<tr>
<td>PRESS &lt;- DSI</td>
<td>1</td>
<td>0.55</td>
<td>1</td>
<td>0.55</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SERVICE &lt;- DSI</td>
<td>0.96***</td>
<td>0.10</td>
<td>0.51</td>
<td>0.96***</td>
<td>0.10</td>
<td>0.48</td>
</tr>
<tr>
<td>POLICE &lt;- DSI</td>
<td>1.65***</td>
<td>0.13</td>
<td>0.80</td>
<td>1.65***</td>
<td>0.13</td>
<td>0.76</td>
</tr>
</tbody>
</table>

Covariances between latent variables and between error items

<table>
<thead>
<tr>
<th></th>
<th>1990</th>
<th></th>
<th></th>
<th>2000</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coef.</td>
<td>SE</td>
<td>Beta</td>
<td>Coef.</td>
<td>SE</td>
<td>Beta</td>
</tr>
<tr>
<td>DCI &lt;-&gt; DSI</td>
<td>0.20***</td>
<td>0.020</td>
<td>0.80</td>
<td>0.10***</td>
<td>0.02</td>
<td>0.54</td>
</tr>
<tr>
<td>Eservice &lt;-&gt; Epolicy</td>
<td>-0.06***</td>
<td>0.018</td>
<td>-0.22</td>
<td>-0.01</td>
<td>0.03</td>
<td>-0.04</td>
</tr>
</tbody>
</table>

Note: For identification of the variable labels see figure 6.1 and figure 6.2. Eservice, the error item of distrust in civil service; Epolicy, the error item of distrust in police.

For all unstandardized estimates, significant level: ***: p<0.001; **: p<0.01; *: p<0.05.

Next, I only assume that the measurement constructs of two latent variables are invariant across samples. So I test whether the 5 indicators measure the latent factors in the same way in both samples. Accordingly, 7 variances and 1 factor covariances are freely estimated in each sample. Values of selected indices of goodness of fit for this model are as follows: $\chi^2 (9)=12.3$, p=.198, CFI=.998, and RMSEA=.018 with the 90% distrust interval .000-.040. All indices are favorable. Compared to the unconstrained model, $\Delta \chi^2=2.9$, with df = 3 and p=.408, indicates that adding the constraints does not significantly change the goodness of fit. Thus, I accept the constrained measurement model that assumes equal estimates for the measurements of DCI and DSI across urban sub-samples of 1990 and 2000. The maximum likelihood parameter estimates can be found in Table 6.2. The measurement weights are
consistent between the samples of 1990 and 2000. Meanwhile, the covariance between DCI and DSI significantly declines from .80 to .54. I will discuss the declines in detail in the following section.

6.1.2 The MIMC model for urban sub-samples

Against the background of equality-constrained measurement model, I apply multiple-group structural equation modeling to test the causal relationships among socioeconomic variables, political distrust, and SWB. This MIMC model can be conceived as an extension of standard structural equation modeling techniques. It allows an examination of the causal structure in both the measurement and the structural model in two or more groups (see Jöreskog and Sörbom 1989: 227). It provides numerous research advantages such as (a) correction for measurement error, (b) tests of measurement equivalence across groups, and (c) inclusion of covariates. With a multiple-group structural equation model, I am able to test for different in the structural relationships of the independent and dependent variables between 1990 and 2000.

In this section, I modify the CFA model of Figure 6.2 by adding 6 exogenous variables and new relationships. Financial satisfaction certainly influences on life satisfaction. DCI and DSI have direct effects on financial satisfaction and life satisfaction, while their error items are correlated. Furthermore, household income, social class, health state, and powerlessness also directly impact on financial satisfaction and life satisfaction. In addition, the error items of the four observed variables are correlated with each other.

The first model (S1.1) is estimated with the pooled data of the samples of 1990 and 2000. However, the MIMC model does not fit the data very well. Values of
selected indices of goodness of fit for this model are as follows: $\chi^2 (58) = 199.2$, $p=0.000$ CFI=.952, and RMSEA=.046 with the 90% distrust interval .039-.053. The value of CFI is close to the perfect value of 1 and RMSEA is less than .05. But the p-value is close to 0, which is not favorable. The indices indicate that the model only moderately fit the data.

Figure 6.3 Standardized estimates of the modified MIMC model freely estimated for urban samples of 1990

Note: For identification of variable label, see Figure 6.1 and 6.2. Income: log of household income; Class: subjective social class; Powerless: powerlessness; Health: health state. Standardized factor loadings are shown. All error items and correlations between them are not shown.
Therefore, I modified the model according to theoretical reasoning, modification indices and significance tests.\textsuperscript{22} I add 8 residual correlations between the following items: Powerless and DCI, Income and DCI, Health and DCI, Class and DCI, Powerless and DSI, PRESS and Health, Health and SER, and PRESS and Powerless. As a result, the modified model (S1.2) fits the two groups very well: $\chi^2 (42)=55.5$, $p=.080$ CFI=.995, and RMSEA=.017 with the 90\% distrust interval .000-.028. The standardized estimates are presented in Figure 6.3 and 6.4.

Figure 6.4 Standardized estimates of the modified MIMC model freely estimated for urban sample of 2000

Note: For identification of variable label, see Figure 6.1, 6.2 and 6.3. All error items and correlations between them are not shown.

\textsuperscript{22} The modification indices must be used with caution when adding parameters. It is first important for the researcher to determine if the relationship makes sense. It is also helpful to review the empirical literature before opting to add additional parameters.
From Figure 6.3, one can see that powerlessness has the strongest influence (-.29) on life satisfaction in 1990, followed by financial satisfaction (.24) and DCI (-.24). Compared to powerlessness and DCI, financial satisfaction is not so strongly influential for life satisfaction. The effect of health state is moderate (.12), while those of income and class are insignificant. Meanwhile, financial satisfaction is dependent on powerlessness, DSI, DCI and income (respectively -.30, -.12, -.09 and .13). Given the moderate effect of financial satisfaction on life satisfaction, the indirect effects of other predictors on life satisfaction via financial satisfaction are not very strong.

In Figure 6.4, financial satisfaction becomes the strongest predictor (.58) for life satisfaction in 2000, followed by powerlessness (-.19). The others are not greatly influential for life satisfaction. By contrast, financial satisfaction is greatly determined by powerlessness, class, DSI and income (respectively -.22, .30, -.21 and .10). In this case, financial satisfaction strongly mediates the indirect effects of socioeconomic factors on life satisfaction.

In the next step, the MIMC model is used as the baseline model, against which I compare subsequent models with different equality constrains. Firstly, the measurement weights are set equal in Model 1. Next, structural weights are set equal. In a subsequent model, the errors of the latent variables and their corresponding correlations with the other error terms were set free. Finally, a model with equal measurement errors between the two groups is introduced. Table 6.2 illustrates the goodness of fit for the initial and the re-specified models.

One can see that measurement model (Model 1) fits the data as well as the unconstraint model (Model 0), consistent with the results of the CFA model. But a model with additional equality constraint on structural coefficients (Model 2) causes significant drop in fit measures (p<.001). Moreover, when the errors of the latent variables and their corresponding correlations with the other error terms (Model 3) are set equal, results show a significant increase in Chi-square ($\Delta \chi^2=774.1$, df=18, and p-value<.001), indicating a much worse fit than Model 2. Likewise, the model with all
equal parameters does not fit the data and results in salient decline in the model fit either, relative to Model 3 ($\Delta \chi^2=96.6$, df=11, and p-value<.001). Thus, only the assumption of equal measurement weights can be maintained.

<table>
<thead>
<tr>
<th>Model</th>
<th>DF</th>
<th>CMIN</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 0 (Unconstraint model)</td>
<td>42</td>
<td>55.5</td>
<td>--</td>
</tr>
<tr>
<td>Model 1 (Measurement weights) vs. Model 0</td>
<td>3</td>
<td>2.3</td>
<td>.512</td>
</tr>
<tr>
<td>Model 2 (Structural weights) vs. Model 1</td>
<td>13</td>
<td>90.6</td>
<td>.000</td>
</tr>
<tr>
<td>Model 3 (Structural residuals) vs. Model 2</td>
<td>18</td>
<td>774.1</td>
<td>.000</td>
</tr>
<tr>
<td>Model 4 (Measurement residuals) vs. Model 3</td>
<td>11</td>
<td>96.6</td>
<td>.000</td>
</tr>
</tbody>
</table>

Given the good fit of model 2, I wonder which causal relationships are unchangeable over time in urban areas and which ones are not. Therefore, I take the model with equality constraints on measurement weights as initial model against which I compare subsequent models in which equality constrains on certain structural weights are specified. I drop those constraints resulting in significantly worse fit than that of the initial model.

Finally, I get a model with the most equality constraints on structural weights. The following causal paths are set equal between the two groups: from DCI to FS and LS, from DSI to FS and LS, income to LS, social class to LS, and from powerlessness to FS. By contrast, 6 pairs of coefficients are found statistically different across waves: from income to FS, from class to FS, from powerlessness to LS, and from health to LS and FS, and from FS to LS. Additionally, the causal path from income to LS is set zero for two waves because of insignificant Beta values. Compared to the
measurement model (Model 1), the modified model has higher degrees of freedom, while the actual $\chi^2$ value ($\chi^2_{(52)}=65.0$, $P=.107$) does not significantly increase ($\Delta\chi^2=7.19$, df=7, and p-value=.409). Accordingly, other fit statistics are also encouraging. The CFI increases by .001 after modification; RMSEA slightly decreases from .016 to .15, with confidence interval between .000 and .025. Furthermore, adjusted $R^2$ of life satisfaction reaches .34 in the sample of 1990 and .60 in that of 2000, suggesting this model account for a great amount of variance of life satisfaction.

The structural weights are displayed in Table 6.3. For the determinants of life satisfaction, income, class, and two factors of political distrust, in fact, do not change their roles among urban residents across the transition. Income and DSI have weak effects throughout the transition. DCI constantly exerts influence on life satisfaction. The coefficient of -0.48 indicates that an increase in DSI is able to reduce the level of SWB by 0.48 units in both urban samples of 1990 and 2000. The explanatory power is moderate over time (-0.16 in 1990 and 0.10 in 2000). Similarly, social class shows unchangeable effects on life satisfaction across the period of economic transition. On average, one class higher can bring urban residents 0.19 units of life satisfaction.

By contrast, FS, powerlessness and health exert different effects on life satisfaction over time. Firstly, FS becomes much more critical to life satisfaction between 1990 and 2000, and its explanatory power becomes stronger too (Beta=0.20 in 1990, relative to 0.58 in 2000). Secondly, the explanatory power of powerlessness and health state decline during this period. One more unit of powerlessness can reduce 0.29 units of life satisfaction in 1990 but only 0.20 in 2000. For health, the effect is strong (beta=0.13) in 1990 but insignificant in 2000.

As far as the effects on financial satisfaction are concerned, powerless, DSI and DCI hold the same effects on financial satisfaction over time. Social class and health are more important for financial satisfaction (respectively from 0.20 to 0.93 and from 0.09 to 0.44). Meanwhile, the same amount of income can bring much less financial
satisfaction in 2000 (0.53) than in 1990 (0.18), while the explanatory power of income
does not decline so much.

Table 6.3 Structural weights of the MIMC model for the urban samples of
1990 and 2000

<table>
<thead>
<tr>
<th>Structural weights</th>
<th>1990</th>
<th>2000</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coef.</td>
<td>S.E.</td>
</tr>
<tr>
<td>On LS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FS</td>
<td>0.20***</td>
<td>0.03</td>
</tr>
<tr>
<td>Powerless</td>
<td>-0.29***</td>
<td>0.03</td>
</tr>
<tr>
<td>Class</td>
<td>0.19**</td>
<td>0.07</td>
</tr>
<tr>
<td>Income</td>
<td>0.05</td>
<td>0.05</td>
</tr>
<tr>
<td>Health</td>
<td>0.30***</td>
<td>0.07</td>
</tr>
<tr>
<td>DSI</td>
<td>-0.24</td>
<td>0.27</td>
</tr>
<tr>
<td>DCI</td>
<td>-0.48**</td>
<td>0.16</td>
</tr>
<tr>
<td>On FS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Powerless</td>
<td>-0.32***</td>
<td>0.03</td>
</tr>
<tr>
<td>Class</td>
<td>0.20</td>
<td>0.13</td>
</tr>
<tr>
<td>Income</td>
<td>0.53**</td>
<td>0.18</td>
</tr>
<tr>
<td>Health</td>
<td>0.09</td>
<td>0.09</td>
</tr>
<tr>
<td>DSI</td>
<td>-1.13**</td>
<td>0.37</td>
</tr>
<tr>
<td>DCI</td>
<td>-0.15</td>
<td>0.22</td>
</tr>
</tbody>
</table>

Effects in SEM can be either direct or indirect and refer to any association that
exists between variables. Direct effects represent the values of the existing paths that
make up the structural equation model, which are discussed above. From Table 6.4,
one can see that the total effects of powerlessness and health do not change between 1990 and 2000, though their indirect effects increase a lot (respectively from -0.07 to -0.17 and from 0.01 to 0.09). Income has no salient total impact on life satisfaction in 1990 but significant in 2000 (beta=.09). The indirect effect via financial satisfaction is moderate in 2000 (beta=.06). The total effect of social class on life satisfaction had been strengthened a lot between 1990 and 2000 too (from .08 to .23). Like that of income, the effect of social class on life satisfaction is largely mediated by financial satisfaction (0.16). DCI and DSI moderately impact on life satisfaction during the transition. The changes in their effects are not salient over time. The total effect of DCI on life satisfaction drops from -0.17 to -0.11, whereas the indirect effect increases from -0.01 to -0.09.

### Table 6.4 Standardized total and indirect effects on life satisfaction in the MIMC model for the urban sub-samples of 1990 and 2000

<table>
<thead>
<tr>
<th></th>
<th>FS</th>
<th>Powerless</th>
<th>Income</th>
<th>Class</th>
<th>Health</th>
<th>DCI</th>
<th>DSI</th>
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<tr>
<td><strong>Total effect:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td>0.24</td>
<td>-0.36</td>
<td>0.05</td>
<td>0.08</td>
<td>0.14</td>
<td>-0.17</td>
<td>-0.08</td>
</tr>
<tr>
<td>2000</td>
<td>0.58</td>
<td>-0.35</td>
<td>0.09</td>
<td>0.23</td>
<td>0.12</td>
<td>-0.11</td>
<td>-0.12</td>
</tr>
<tr>
<td><strong>Indirect effect:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td></td>
<td>-0.07</td>
<td>0.03</td>
<td>0.02</td>
<td>0.01</td>
<td>-0.01</td>
<td>-0.04</td>
</tr>
<tr>
<td>2000</td>
<td></td>
<td>-0.17</td>
<td>0.06</td>
<td>0.17</td>
<td>0.09</td>
<td>-0.02</td>
<td>-0.09</td>
</tr>
</tbody>
</table>

### 6.1.3 Conclusions

Several important conclusions should be drawn from these results. With respect to the general constructs of political distrust, a confirmatory factor analysis revealed that by and large the measurement model reflected the underlying structure.
The CFA model is tested with the pooled urban sample as well as the separated sub-samples in terms of waves. The overall fits of the structural equation models are adequate with low SRMR statistics (i.e., small differences between the estimated and observed model) and acceptable CFI and RMSEA scores. The general fit of the model proves that a common conceptual model can be applied to the urban samples of 1990 and 2000. Especially, the models indicate that political distrust is not a single-level concept but a multi-dimension one. Based on the five-item measurement, I identify two sub-dimensions: distrust in central institutions and distrust in specific institutions. They respectively contain 2 and 3 items. This multi-level contrast is statistically unchangeable across waves. It suggests that Chinese urban residents might share quite similar political concepts on the public institutions regardless the difference in occasions. It forms the basis of the following analysis on structural relationships among the latent variables and the exogenous variables.

Regarding structural relationships, above all, financial satisfaction turns out to be the strongest predictor in 2000 and mediates a large amount of other variables’ impacts. It reflects that a free-market economy has inevitably enforced materialism and the importance of economic resources. Similarly, the influence of money and class is weak in direct and indirect ways in 1990, but become significant in 2000. These results again confirm quite clearly the Hypothesis 1a and 3b that the economic transition to a free-market makes economic capital and social status more influential for life satisfaction.

By contrast, powerlessness constantly reduces the level of SWB in both waves; in the models, its direct impact differs over time although the total effect remains nearly the same. The change in direct effect is consistent with the results from regression models. Nevertheless, the MIMC SEM uncovers that the drop can be attributed to the increased indirect effect via financial satisfaction. In fact, powerlessness exerts constant influence on life satisfaction. It, thus, supports hypothesis 4b which states that powerlessness has a negative effect on SWB across
the transition. Similarly, health holds almost the same total effects on life satisfaction over time, although its direct impacts differ.

The effects of political distrust on life satisfaction and financial satisfaction are salient for the urban samples of 1990 and 2000, although the explanatory power fluctuates a bit. Two dimensions of political distrust steadily influence both life satisfaction and financial satisfaction over time. However, DCI directly impacts on life satisfaction during transition, whereas DSI is able to influence people’s satisfaction with financial situation. This finding supports that political capital keeps its influence during the transition to market economy (hypothesis 7b).

6.2 A comparison between rural and urban China in 2000

In this section, I focus on the sample of 2000 and test whether political distrust and the other factors have diverse impacts on SWB across regions. The multi-dimension model of 2000, on the one hand, provides further information for judging the reliability of the previous findings; on the other hand, it includes more relevant variables such as distrust in political party and TV, satisfaction with democracy, and satisfaction with political incumbents in order to explanatory power of the SEM. A two-step process is employed due to the complexity of the empirical test. In this section, the measurement models are tested via confirmatory factor analyses and are modified as necessary. Next, a structural construct with causal relationships is tested.
6.2.1 Measurement model

The survey of 2000 contains some questions which have not been asked in the survey of 1990. To take advantage of the improved data of 2000, I add more variables to the structural equation model. I firstly introduce a latent variable, namely Political Satisfactions (PS), and its three observed variables – satisfaction with governing system (SYS), Democracy Satisfaction (DS) and Incumbent Satisfaction (IS). For the measurement of political distrust, I include distrust in political party (PARTY) and distrust in TV (TV) (for statistic details, see Table 4.3).

Because of the strong associations between the two endogenous variables of political distrust find in previous section, a second-order structure is introduced into the model. This means that a latent variable political distrust is added, from which two causal paths are introduced to DCI and DSI. Accordingly, a correlation between political distrust and political satisfaction is added.

The measurement model is tested to examine the strength of the links between constructs and their items. Optimizing modification indices and significance levels leads to a new model in Figure 6.5. I introduce the following modifications after consideration of empirical and theoretical implications:

Introduction of a latent variable “Distrust in mass media” (DMM) with two indicators PRESS and TV;

Introduction of residual correlations between the following items: SER and GOVERN, DS and DCI.
Figure 6.5 Standardized estimates from CFA model for the sample of 2000

Note: PS: political satisfaction; PD: political distrust; DSI: distrust in specific institutions; DMM: distrust in mass medium; DCI: distrust in central institutions. For identifications of other variable labels, see Figure 6.1, 6.2 and 6.3.

The model fits the data very well. Values of selected indices of goodness of fit for this model are as follows: $\chi^2(29)=39.6$, $p=.091$, CFI=.996, and RMSEA=.019 with the 90% distrust interval .000-.033. All indices of goodness of fit are favorable. All factor loadings except the one from PS to DS are not less than .50, significant at the level of 0.001. The factor loading of DS to PS is only .48, which is still acceptable. And the explained variances of the items vary between .23 for DS and .89 for DSI, a range of magnitudes that are acceptable. There is a strong association between PD and PS (-.72). The newly added residual correlation (-.13) implies that the relationship between DCI and DS is stronger than the model reveals.
The measurement model in Figure 6.5 already demonstrated the high correlations among the latent constructs PD and PS. For the simultaneous test of the measurement hypotheses between two regional samples, the measurement model in Figure 6.5 is taken as the initial model and some equality constraints are then posited in the model step by step. To begin with, all parameters are freely estimated for the two samples. All indices of goodness of fit are favorable: $\chi^2(58)=112.8$, $p=.000$, CFI=.979, and RMSEA=.031 with the 90% distrust interval .022-.039. All indices except p-value are favorable.

To statistically examine the differences between rural and urban samples, I impose equality constraints on the parameters, as I have done in previous sections. From Table 6.5, one can see that the equality constraints on measurement weights and structural weights do not significantly alternate the model fit, but the rest really do. The constraints on both measurement and structural weights improve the degree of freedom by 8, causing an increase in CMIN by 11.0. The rest constraints result in significant drops in mode fit ($p<.05$). Nevertheless, consistent coefficients on measurement and structural weights indicate that PS, DCI, DMM, and DSI respectively refer to the same constructs across regions.

<table>
<thead>
<tr>
<th>Model</th>
<th>DF</th>
<th>CMIN</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 0 (Unconstraint model)</td>
<td>58</td>
<td>112.8</td>
<td>--</td>
</tr>
<tr>
<td>Model 1 (Measurement weights) vs. Model 0</td>
<td>6</td>
<td>7.613</td>
<td>.268</td>
</tr>
<tr>
<td>Model 2 (Structural weights) vs. Model 1</td>
<td>2</td>
<td>3.39</td>
<td>.183</td>
</tr>
<tr>
<td>Model 3 (Structural covariances) vs. Model 2</td>
<td>3</td>
<td>11.840</td>
<td>.008</td>
</tr>
<tr>
<td>Model 4 (Structural residuals) vs. Model 3</td>
<td>3</td>
<td>13.704</td>
<td>.003</td>
</tr>
<tr>
<td>Model 5 (Measurement residuals) vs. Model 4</td>
<td>12</td>
<td>69.522</td>
<td>.000</td>
</tr>
</tbody>
</table>
6.2.2 The results from MIMC Model

After testing the consistency of the measurement model across regions, I introduce life satisfaction and financial satisfaction, and four exogenous variables, namely income, social class, powerlessness and health state, in the model. Life satisfaction, political satisfaction and financial satisfaction are assumed to be dependent on both political distrust and the four exogenous variables. Among the three items of SWB, life satisfaction depends on two other variables. Financial satisfaction and political satisfaction, two indicators of domain satisfaction, are correlated with each other, since both causal paths are plausible between them. Meanwhile, the error items of PD and the four exogenous variables are correlated with each other. This MIMC model contains one more latent variable PS and five more observed variables than does the MIMIC model used in the comparison between the urban samples of 1990 and 2000.

The MIMC model is tested with the whole sample of 2000. The new model well fits the data well (see Figure 6.6: χ²(79)=168.9, p<.001, CFI=.977, and RMSEA=.034 with the 90% distrust interval .027-.041). Except the index of p-value, all indices of goodness of fit are favorable.

Although the p-value is not satisfied, one can still see that all standardized first-order factor loadings are between 0.51 (from PS to DS) and 0.80 (from DMM to Press). The second-order variable political distrust is well measured by the three latent indicators – DCI, DMM, and DSI: factor loadings are respectively .57, .79, and .92. The correlation between PS and FS is high (.38). However, life satisfaction is moderately dependent on political satisfaction (.18). The coefficient is smaller than those of powerlessness (-.19) and FS (.49). With respect to political satisfaction, no doubt that political satisfaction is highly dependent on political distrust (-.69), followed by powerlessness (-.21) and health (.11). Income and social class are weak
predictors for life satisfaction and political satisfaction. However, subjective social class explains a salient part of the variance of financial satisfaction, while the effect of income is moderate. Powerlessness and health moderately impact on financial satisfaction (respectively -.18 and .14)

Figure 6.6 Standardized estimates of the initial MIMC model for Chinese sample of 2000

Note: For identification of the variable labels, see Figure 6.3 and 6.5. All error items and correlations between them are not shown.
Next, I divide the sample of 2000 into rural and urban sub-samples and test if the roles of these predictors differ between the two regional groups. I use simultaneous multiple group comparison to examine in more detail which parameters may differ between rural and urban residents. The baseline model is tested simultaneously for the two region groups. Some selected indicators of goodness of fit of the model are as follows: $\chi^2(158)=329.3$, $p<.001$. CFI increases to .957 and RMSEA declines to .033 with confidence interval between .025 and .038.

In order to improve this model, I introduce several modifications in terms of modification indices, significant test, and theoretical feasibility:

Introduction of residual correlations between the following items: DCI and FS, DSI and Powerless, PARL and Income, DS and Powerless, SER and Powerless, PARL and DS, GOV and IS, Party and Health, Party and LS, POL and Health, and Party and SER.

Deletion of causal paths between the following items: from PD to LS, from Health to LS, from Income to LS, and from Income to PS.

With these modifications, the model fits the data much better. Selected indicators of goodness of fit of the model are as follows: $\chi^2(148)=218.4$, $p<.001$. CFI increases to .982 and RMSEA declines to .022 with confidence interval between .015 and .028. Nevertheless, no significant changes in structure weights are found, relative to the previous model.

Next, the modified model is retained at the initial model (Model 0) for the multiple group comparisons. Firstly, the measurement weights, including the second-order factor loadings, are set equal across regions. Secondly, the structural weights are set equal as well and then compare the indices of goodness of fit with the measurement model in order to statistically examine if or not the additional equality
constraints significantly undermine model fit. In the subsequent model, the errors of the latent variables and their corresponding correlations with the other error terms were set free and the modified model is compared with the previous model with equal constraints on structure weights. Finally, a model with equal measurement errors between the two groups was introduced and is compared with the last model. Table 6.6 illustrates the goodness of fit for the initial model and the re-specified models.

<table>
<thead>
<tr>
<th>Model</th>
<th>DF</th>
<th>CMIN</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 0 (Unconstraint model)</td>
<td>148</td>
<td>218.4</td>
<td>--</td>
</tr>
<tr>
<td>Model 1 (Measurement weights) vs. Model 0</td>
<td>8</td>
<td>14.3</td>
<td>.073</td>
</tr>
<tr>
<td>Model 2 (Structural weights) vs. Model 1</td>
<td>13</td>
<td>33.7</td>
<td>.001</td>
</tr>
<tr>
<td>Model 3 (Structural residuals) vs. Model 2</td>
<td>19</td>
<td>423.6</td>
<td>.000</td>
</tr>
<tr>
<td>Model 4 (Measurement residuals) vs. Model 3</td>
<td>22</td>
<td>142.3</td>
<td>.000</td>
</tr>
</tbody>
</table>

One can see that measurement model (Model 1) fits the data as well as does unconstraint model (Model 0). And the model with additional equality constraint on structural coefficients (Model 2) causes significant drop in fit measures ($\Delta \chi^2=33.7$, df=13, p=.001). In the subsequent model, the errors of the latent variables and their corresponding correlations with the other error terms (Model 3) are set equal, but measurement errors are freely estimated in the two groups. This model results in significant increase in Chi-square ($\Delta \chi^2=423.6$, df=19, and p-value<.001), indicating the model fits the data very much worse than Model 2. Likewise, the model with all equal parameters does not fit the data and results in salient decline in the model fit, relative to Model 3 ($\Delta \chi^2=142.3$, df=22, and p-value<.001).
Given the significantly dropped fit of the model with equality constraint on structural constructs, I wonder which constraints cause the reduction. Therefore, the measurement model (Model 1) is taken as the model against which I compare subsequent models in which equality constrains on certain structural weights are specified one by one. Accordingly, I delete those equality constrains resulting in significant drops in fit and get the model with the most equality constraints on structural weights. Three pairs of coefficients are found statistically different between 1990 and 2000: from PD to FS, from PD to PS, and from Class to PS. In addition, the effect of health on PS is insignificant in both regions and class has no important influence on FS in rural sample. Compared to the initial model, the modified model has higher degree of freedom, while the actual $\chi^2$ value does not significantly increase ($\Delta \chi^2 = 19.0$, df=11, and p-value=.061).

Table 6.7 reports the standardized coefficients of the direct and total effects on life satisfaction, financial satisfaction and political satisfaction for both rural and urban samples. Above all, financial satisfaction, a dimension of domain satisfaction, is the most influential factor for life satisfaction in the two samples. The standardized total effect of financial satisfaction on life satisfaction is nearly constant across regions (.53 for the rural sub-sample and .52 for the urban sub-sample). Likewise, political satisfaction, another dimension of domain satisfaction, moderately impacts on life satisfaction in China (.10 for rural sample and .11 for urban sample). The results show that the structure of SWB hardly differs between rural and urban areas.

The effect of political distrust on life satisfaction is fully mediated by political satisfaction and financial satisfaction. Its direct effect on life satisfaction is equal to zero in the two sub-samples. Its indirect effect is -0.1 for rural sub-sample and -0.18 for urban sub-sample. Political distrust costs more political satisfaction but less life satisfaction and financial satisfaction in the countryside. The greater total influence of political distrust on life satisfaction in cities can be contributed to the stronger role of political distrust in determining urban dweller’s financial satisfaction (-.21).
Table 6.7 Standardized coefficients of the direct and total effects on life satisfaction, political satisfaction, and financial satisfaction in the MIMC model for Chinese sample of 2000

<table>
<thead>
<tr>
<th>Dependent variables</th>
<th>FS</th>
<th>PS</th>
<th>PD</th>
<th>Powerless</th>
<th>Class</th>
<th>Income</th>
<th>Health</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rural</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LS</td>
<td>0.53</td>
<td>0.1</td>
<td>-0.09</td>
<td>-0.33</td>
<td>0.2</td>
<td>0.03</td>
<td>0.06</td>
</tr>
<tr>
<td>FS</td>
<td>0</td>
<td>0</td>
<td>-0.03</td>
<td>-0.18</td>
<td>0.21</td>
<td>0.05</td>
<td>0.12</td>
</tr>
<tr>
<td>PS</td>
<td>0</td>
<td>0</td>
<td>-0.78</td>
<td>-0.23</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Urban</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LS</td>
<td>0.52</td>
<td>0.11</td>
<td>-0.18</td>
<td>-0.33</td>
<td>0.28</td>
<td>0.06</td>
<td>0.06</td>
</tr>
<tr>
<td>FS</td>
<td>0</td>
<td>0</td>
<td>-0.21</td>
<td>-0.18</td>
<td>0.34</td>
<td>0.12</td>
<td>0.11</td>
</tr>
<tr>
<td>PS</td>
<td>0</td>
<td>0</td>
<td>-0.63</td>
<td>-0.21</td>
<td>0.14</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

All four exogenous variables such as health, powerlessness, income and social class respectively have quite constant impact on life satisfaction across regions; the unstandardized coefficients of these causal paths can be set equal across the two sub-samples. It suggests that the two regions share the same relationships of life satisfaction with economic, social, and personal conditions. By contrast, income and social class exert stronger effects on financial satisfaction in cities than in the countryside.

Among them, powerlessness is the most important in predicting life satisfaction. The standardized coefficient of total effect on life satisfaction is -0.332 and -0.327 for rural and urban samples respectively. Its total effect on FS is moderate (-.117 in both regions). But powerlessness’ effect on PS is the second highest, next to PD. This evidence indicates that powerlessness is very crucial not only to life satisfaction but
also to political satisfaction. Therefore, the indirect effects of powerlessness via PS are not negligible (-.116 for rural sample and -.115 for urban sample).

Household income is a weak factor for life satisfaction and political satisfaction. Its standardized regression coefficients can be set 0 and its total effects are not strong (.028 in the rural and .067 in the urban). Consistent with previous findings, the level of financial satisfaction increases with household income but the associations are not very strong (.053 in the rural and .123 in the urban). Additionally, money can not buy any political satisfaction in both regions. It confirms that absolute income account a little for the variance in SWB.

Social class identification is the second strongest predictor for life satisfaction (respectively .2 for the rural and .281 for the urban) and the strongest for financial satisfaction among the four variables. In contrast, its impacts on PS are negligible in the two regions.

Finally, health state has only moderately direct effects on life satisfaction (.06 for both regions). The level of financial satisfaction, however, increases with health state (.12 for the rural and .114 for the urban).

6.2.3 Conclusion

In this section, I test an extended model with the sample of 2000. The results uncover both coherences and differences between rural and urban China. First, it proves again that political distrust is a multi-dimensional concept. That is, different institutions have variant effects on people’s general political distrust. Some institutions such as the police and civil service contribute more to the overall distrust in politics. The explanation could be that people interact with them on a daily basis. Mass media, including press and TV, is relatively less influential, perhaps because
people experience media although daily but indirectly. The effects of legislative institutions such as central government, parliamentary, and the communist party are not as strong as those of the other institutions. The reason obviously lies in the greater political distance between the public and these institutions. Their political impact is usually mediated by specific institutions and their images are formed and spread via mass media. Furthermore, such pattern is the same in both rural and urban areas. These findings suggest that future studies should pay more attention to specific institutions rather than general system and institutions when examining determinants of political distrust.

As far as the relationship between political distrust and SWB is concerned, political distrust, above all, is extremely crucial to political satisfaction but hardly has direct influence on life satisfaction. Political satisfaction, as a dimension of domain satisfaction, only modestly impacts on life satisfaction, relative to financial satisfaction. It implies that politics has not taken an important role in Chinese lives as China fell far behind in political reformation but went so forward in economic transition. In a suddenly marketized society, the feelings of economic situation show more influence on global satisfaction with life than do those of political conditions.

Furthermore, the MIMC model uncovers a strong indirect impact of political distrust on life satisfaction via financial satisfaction, especially in cities. Financial satisfaction is found to play a strong role as mediator between political distrust and life satisfaction. In other words, the higher political distrust, the less financial satisfaction people would have; and the less financial satisfaction, the less life satisfaction. The relationships uncover that political conditions can still influence SWB, although not as strong as economic factors. The weak direct impact of political distrust on life satisfaction is consistent with the Russian situation found by Rose (2000) on the one hand; on the other hand, indirect impact via financial satisfaction indicates that political attitudes are not negligible when we study SWB in transitional society.
In addition, the total impact of political distrust on life satisfaction is stronger among urban dwellers than among farmers. It reflects the fact that political system influence people’s life more in cities, relative to the countryside. Thus, further research could pay more attention to urban residents’ political experience, when analyzing individual SWB.

Powerlessness and social class have strong effects on SWB across regions. People with higher level of powerlessness tend to be less satisfied with life, financial situation and political conditions. The significant roles of powerlessness indicate that anomie is a depressor in all three dimensions of SWB. Social class is also influential for all aspects of SWB in cities. It even is the most important predictor for financial satisfaction, indicating that perceived social position is particularly crucial to people’s feeling of economic situation. In the countryside, social position is no long related to political satisfaction, whereas its roles in life satisfaction and financial satisfaction are significant.

The other exogenous variables like household income and health show a relatively weak impact on SWB. Income is a weaker predictor for life satisfaction in rural area than in cities. In both regions, income has even no bearing on political satisfaction. It again implies that farmers are less influenced during transition. Due to multi-collinearity, the regression models in Chapter 4 fail to identify the impact of income when social class and powerlessness are taken into account. The results of SEMs show that economic inequality costs more SWB among urban dwellers and accordingly provide explanation for the question why lower average income does not cause lower level of SWB among farmers, relative to the people living in cities. The impact of health on life satisfaction is fully mediated by financial satisfaction. Its role in determining political satisfaction is negligible.

To sum up, the MIMC model confirms that economic and social positions are particularly important for life satisfaction and financial satisfaction in cities, while only social status directly influence financial satisfaction and indirectly influence life
satisfaction via financial satisfaction. The differences indicate that rural dwellers are less materialist and thus less influenced by economic conditions. Political distrust is crucial to political satisfaction and significantly related to financial satisfaction in urban areas. Powerlessness shows strong impact on all three dimensions of SWB in both rural and urban areas, indicating that anomie costs SWB all over the country in transition.
Chapter 7 Conclusion

Does this analysis solve the Chinese puzzle? Can I answer why a rising GDP per capita in China failed to be translated into an increase in subjective well-being? I start out with a literature review of happiness research (Chapter 2). Contemporary research clusters around three major disciplines: firstly, economists mainly focus on the relationship between economic conditions and SWB. They address that absolute income is crucial to SWB when a rising income pulls people out of poverty. In an affluent society, relative income, rather than absolute income, can substantially contribute to people’s SWB.

Secondly, psychologists emphasize psychological determinants for SWB such as personality, self-control, aspiration and goals. The set-point theory and the happy treadmill theory argue that external environment such as income and achievement can hardly alter individual’s SWB in the long run, in spite of their salient temporary effects.

Thirdly, sociologists insist that SWB is an individual experience determined by social environment, although socio-demographic factors such as gender, educational level and age are only weakly related to SWB. Social class is found to be influential for SWB. Anomic also plays an important role in determining people’s SWB, especially in a transitional society. Trust, a component of social capital, is considered important for people’s SWB too.

Based on this literature review, Chapter 3 presents three possible explanations of the Chinese puzzle. “Frustrated achievers” given by Graham and Pettinato (2002b), has been applied to explain the declining happiness among the rich groups in Latin America and Russia (Graham, Eggers and Sukhtankar 2004; Graham and Felton 2006). In this analysis, I add a factor of social mobility to the concept. That is,
“frustrated achievers” refer to those with increasing absolute incomes but with declining relative incomes and downward social mobility. Secondly, anomie, a classic sociological concept introduced by Emile Durkheim and modified by Robert Merton, is another possible source of unhappiness in a rapidly growing economy. Thirdly, social distrust, including interpersonal distrust and political distrust, has been found to contributed to unhappiness in the US (Putnam 1995) and Europe (Li, Pickles and Savage 2003). Several hypotheses, accordingly, are proposed.

Chapter 4 presents the data and methods used in this analysis. World Values Survey, a worldwide survey, is used to test the hypotheses. Two kinds of statistically models are adopted. One is Ordinary Least Square (OLS) model in which available and relevant variables are included step by step. The other kind is Structural Equation Models (SEMs). SEMs are tested with certain separated sub-samples in order to further examine the relationships between the multi-dimension SWB and political factors, income, social class, powerlessness and health.

The regressions performed in Chapter 5 have demonstrated that the relationships between socio-economic factors and SWB are far more complex. Chapter 6 conduct two comparisons respectively between two urban sub-samples between 1990 and 2000 and two regional sub-samples in 2000 in order to statistically examine the differences and common grounds among those sub-samples. The results are summed in the following sections, with some critical evaluation of these results in terms of their completeness, their practical usefulness and, possibly, the contribution they may make to theoretical progress.

7.1 Explanations for declining SWB

In search of an adequate theory for China’s puzzle, it was the objective of this
analysis to test the three potential theories. In contrast to psychological studies which state that most individuals have fairly stable levels of happiness or SWB. The findings of this analysis support the idea that there are different elements of well-being, some of which are determined by socio-economic and demographic variables. Especially, it proves that a sudden change of the social environment, such as economic transition, could influence the mechanism of SWB.

Chapter 5 presents the results of the regression analyses that answer the research question whether frustrated achievers, anomie and distrust contribute to the declining SWB in China. The first part describes the changes in socio-economic and anomic factors and possibilities of the candidate theories well explaining the puzzle. I began with describing the context of the rapid transition from the perspective of the setting and demographics of the participants themselves. I have surveyed anomie, social distrust and economic capital and tried to measure how they differ among individuals over time. The descriptive statistics indicate that powerlessness and political distrust showed mixed outcomes in rural and urban samples during transition, while changes in other factors are consistent with what I expect in terms of the potential theories. This leaves me with the theory of frustrated achiever as the most plausible explanation.

The findings from regression analysis confirm that the frustrated-achiever-thesis, as a specific version of relative deprivation theory, accounts for the major part of the declining SWB in China. Firstly, financial dissatisfaction is the only negative feeling that has become more rampant in both rural and urban areas. Its depressing effect on general life satisfaction has become considerably stronger over the study period. This pattern proves to be robust against a number of relevant control variables in multivariate regressions.

Secondly, the effect of economic income on SWB was fully revealed in the life satisfaction regressions and the analysis of SEMs. The regressions give considerable weight to the argument that relative income significantly affects one’s life satisfaction.
The increased inequality hurt the feelings of middle income group as well as the poor, whereas being better off did not make the rich more satisfied. It was also shown in regression models and structural equation models that increased absolute income positively affect financial satisfaction and life satisfaction. These results imply that increases in income do increase SWB and policymakers should thus construct policy with the specific intent of increasing income and reducing economic inequality.

Thirdly, subjective social class, which reflects perceived social position and is also combined with social comparison, shows similar effects on SWB over time. Social polarization benefits those on the top of the pyramid on the one hand. On the other hand, it did reduce the level of subjective well-being of other social classes, including both lower and middle lower classes. It is prevailing in many societies that those with lower income and lower perceived social status are frustrated. But the results also show that middle income groups and middle lower class are depressed due to up-ward comparisons. The first comparison in Chapter 6 supports the finding – income and social class become more influential for SWB in 2000 than in 1990 in cities.

Nevertheless I am convinced that "frustrated achievers" alone are not enough to fully understand the Chinese puzzle. In the first line, top-driven inequality explains why Chinese today are less satisfied with their financial situation, despite improvements in absolute terms. It is less helpful to understand why money has become the key conception of a good life for many Chinese. As I have seen from the literature review, losses hurt more than gains. But this hardly explains why financial satisfaction has become that important for Chinese, as it is now.

I believe that the main reason for this lies in China's transition to a capitalist economy and its structural and ideological concomitants. As long as need fulfillment has depended on political loyalty or family ties in a planned, subsistence economy, money mattered little, also for SWB. But money does matter when the economy is privatized and marketized. Then, money is the key for goods, services, social reputation and SWB. In the ideological realm, economic success has changed
completely its cultural meaning. Once deemed immoral under the classical doctrine of socialism, is has now become the prime goal of life: "Becoming rich is glorious", claims the new official doctrine. Therefore it comes as no surprise that for today's China, money means happiness, and that financial dissatisfaction is on the rise. More than any other society, China seems to have entered the "hedonic treadmill" of materialism, in which pecuniary success became a symbol of personal value. The price to be paid is – declining happiness (see Lane 2000b: 141-159).

Besides, the results also partly support the other two potential explanatory theories. Durkheim’s proposed response to observed social anomie was via social integration of norms and behavior. I believe that this response is still highly relevant. Both OLS models and SEMs identified the critical role of powerlessness in determining people’s SWB. The transition to market economy increased the losers’ feelings of powerlessness on the one hand; on the other hand, the newly emerged freedom in market economy contributed to a rise in the winners’ feelings of controlling their lives. It suggests that powerlessness is largely determined by one’s own situation and capability rather than social comparison. Although it contributes little to explaining the puzzle, the prevalent effect of powerlessness suggests that the government and policymakers can improve SWB by reducing uncertainty in the society and improving citizen’s competence and anti-risk ability. Furthermore, anomic values are just moderately related to SWB in the urban sub-sample of 1990, while no significant associations are found in the other sub-samples. Thus, an increase in anomic values can not attribute to the puzzle.

Social distrust, including interpersonal distrust and political distrust, displayed mixed effects on SWB. In regression models, interpersonal distrust moderately reduced farmers’ happiness while the effect is weak in cities. Meanwhile, political distrust is salient in cities but not in the countryside. Other conclusions from the life satisfaction regression are that good health and stable marriage are characteristics that are associated with a happy life and should be promoted by policymakers in order to
increase SWB.

To sum up, the first comparison reveals that subjective social class become statistically more critical to financial satisfaction in the market economy. It also provides strong evidence for the importance of economic and social position in contemporary China. Apart from the increasing effects of social class, powerlessness has a declining effect on life satisfaction during transition. All these findings are consistent with the results from the OLS regression models conduct in Chapter 5, indicating that multicollinearity among these variables did not alter the main results of the regression models. With regard to political distrust, distrust in central institutions significantly reduces life satisfaction, while distrust in specific institutions diminishes financial satisfaction.

7.2 Political distrust and subjective well-being

The key findings of the multi-group SEM are that the rural and urban populations similarly structure their evaluations of subjective adjustment on political distrust and political satisfaction, and that political satisfaction and financial satisfaction are mediators between life satisfaction and political distrust.

The confirmatory factor analysis indicates that a second-order construct of political distrust and the constructs of political satisfaction fit both sub-samples of 2000 equally when the two sub-samples are restricted to have equivalent loadings on their own latent factors. This finding implies that there is no significant difference in the magnitude of the factor loadings between the two groups, denoting a common structure (or meaning) of the factors for both rural and urban sub-samples.

The extended structural equation model reveals causal paths from political
distrust to life satisfaction via political and financial satisfactions. In particular, political distrust costs more political satisfaction in the countryside but less life satisfaction and financial satisfaction in cities. It provides detailed information on the differences in the relationship between political distrust and SWB across regions. It also suggests that SWB is a multi-dimensional concept and that the structure of overall life satisfaction and domain satisfactions is nearly the same between regions.

To conclude, I have adduced strong evidence that economic transition from a centrally planned economy to a free-market economy systematically and substantially influence the determinants of life satisfaction. Socio-economic inequality and relative deprivation are largely responsible for why SWB has been declined in the presence of economic growth. Closer examination reveals that changes in relative income and relative social position account for more fluctuation in SWB than do changes in absolute income. Meanwhile, powerlessness and political distrust alter all three indicators of SWB, although some of their effects are not consistent across regions and waves.

The findings suggest that Chinese policymakers should pay special attention to diminishing equality and promoting social justice in order to minimize people’s relative deprivation and dissatisfaction. Furthermore, a well-established welfare system is also needed to secure the poor and reduce people’s feeling of powerlessness. Finally, a real political reformation is demanded to reduce political distrust, which can not only enhance political satisfaction but also improve the quality of market regulation and raise financial and life satisfactions.

7.3 Limitations and further research

There are some limitations to the analyses carried out in this analysis. Of utmost concern are the small sample sizes. Compared to a population of nearly 1.3 billions, a
sample of 1,000 in each wave makes the results somewhat assailable. Furthermore, the survey in 1990 was conduct mainly in cities and only about 233 cases are identified as farmers. As a result, the sample is not representative of the whole rural population. Descriptions of the present analysis may have underestimated the true extent of structural differences, and therefore, the findings in rural areas here may be problematic.

Next, as I point out in the previous chapter, it is possible that certain measures have problems. For instance, household income alone may not be a good indicator of the economic situation and it may not reflect the real financial situation of people without taking into account household size, expenditure, and “grey income”\(^{23}\). As another possible measurement problem, anomie has been measured with only two indicators such as powerlessness and normlessness. Besides the two variables, many researchers use additional three indicators to measure anomie, including social estrangement, social isolation, and meaninglessness (Seeman 1959), which are unavailable in the World Values Survey.

Substantiation, thus, is required in the measurement of theoretical constructs and research design. The former relies on an explicit identification and thereby analysis of factors and processes accounting for the presumed construct of SWB, political distrust, relative deprivation, social distrust (or social capital) and anomie. Such factors will include measures of various dimensions that go beyond the present measures available in the World Values Survey. It is important to develop precise measures of those general concepts to enhance their sensitivity to hypothesized influences. The measures will also allow for the exploration of the relationships between those concepts and a variety of background characteristics. For instance, it can ascertain the amount of political and social capital that the emergent elite group has. On the other hand, it is necessary to clarify how policymakers can help the poor.

\(^{23}\) Grey income refers to the income outside the scope of state supervision and control (Wang, 2007)\footnote{Wang, Xiao Lu. 2007. "Po Xi Hui Se Shou Ru (Analysis on grey income)." \textit{Business & Finance Review}:26-27.}.
Larger-scale surveys, especially longitudinal surveys, are needed to assert the impact of social change. The present findings about the relationships between SWB and social transition are in need of substantiation and generalization across socio-economic context. Further research is required because the present findings are not conclusive. Notably, the cross-sectional design prohibits drawing definite causal inferences about the impact of financial satisfaction, powerlessness, anomic values, and social trust, especially political trust, on life satisfaction. This limitation largely happens because of the lack of control for possible common factors affecting those feelings and SWB. A longitudinal, panel design, which has repeated measurements, is therefore preferable for minimizing bias due to common factors. Such a design could verify the causal effect over time and thereby substantiate the present assumption of contemporaneous causation.

Further panel surveys will also help researchers identify the different effects of social change on age cohorts. Existing studies have already demonstrated the presence of a U-shaped relationship between SWB and aging. Helliwell (2007) pegs the lowest level of individual’s well-being around the age of fifty. The transition has shown various impacts on different cohorts (Zhou, 2002). The fact that China is aging will offset the entire increase in subjective health that is generated by rising living conditions. And changing demographic features of China would have produced the tendency for younger populations born after 1976 when the single-child policy was applied to inflate SWB. In the coming decades, this “single-child” generation will enter the unhappy “40-50” age bracket, while their parents will experience the transition into “older” age brackets. This transition will produce a more uniform age distribution in China and not allow a single enlarged demographic cluster to influence SWB.

Generalization of the findings will require further research to analyze data collected from diverse socio-political contexts. Context-level factors such as political regimes, capitalist and socialist ideologies, individualism and collectivism, and
economic development can function as moderators to explain discrepant impacts of social transition. These factors can examine the possibility that political loyalty in a socialist regime is salutary to the populace in general whereas that in a liberal democracy primarily benefits particular constituencies.

It is also up to further research to see if this pattern described for China applies more generally to other rapidly growing economies. I hypothesize that it does when massive economic growth increases the average income in order to raise the reference standard for all income groups and when growing income inequality makes the lower strata feeling deprived, even though they are better off in absolute terms. At least in these situations, SWB seems to be more strongly shaped by social utility than by economic utility – even in countries at lower levels of prosperity.
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Sage.


Wu, Xiaogang. 2002. "Work Units and Income Inequality: The Effect of Market


### Appendices


(Yuan)

<table>
<thead>
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<th>Category</th>
<th>Income interval</th>
<th>1990</th>
<th>2000</th>
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<td>&lt;500/Y</td>
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<td>51-100/M</td>
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<td>501-1000/Y</td>
</tr>
<tr>
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<td>101-150/M</td>
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<td>1001-2000/Y</td>
</tr>
<tr>
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<td>151-200/M</td>
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<td>2001-3000/Y</td>
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<td>4001-6000/Y</td>
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<td>301-350/M</td>
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<td>6001-10000/Y</td>
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<td>351-400/M</td>
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<td>&gt;100000/Y</td>
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Note: /M, per month, /Y, per year.
### B: Unweighted estimates of E2 in Chinese rural areas (1990-2000)

<table>
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<tr>
<th></th>
<th>Model 5 Coef.</th>
<th>Beta</th>
<th>Model 6 Coef.</th>
<th>Beta</th>
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<td>0.13</td>
<td>0.65**</td>
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<td><strong>Interpersonal distrust</strong></td>
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<td>0.08</td>
<td>0.01</td>
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**Interaction effects:**

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<td>-0.89*</td>
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<td><strong>2000 * education</strong></td>
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<td>- 2000* high</td>
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<td>-0.58*</td>
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Note: Dependent variable: life satisfaction on a ten-point scale. The models control for gender, age, age², health and partnership.

*: <0.1, *: <0.05, **: <0.01, ***: <0.001

### C: Unweighted estimates of E2 in Chinese urban areas (1990-2000)

<table>
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<td></td>
<td>Coef.</td>
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<td>Coef.</td>
<td>Beta</td>
</tr>
<tr>
<td>Income (0=highest)</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>-Middle</td>
<td>-0.13</td>
<td>-0.03</td>
<td>-0.12</td>
<td>-0.02</td>
</tr>
<tr>
<td>-Lower middle</td>
<td>-0.07</td>
<td>-0.01</td>
<td>-0.05</td>
<td>-0.01</td>
</tr>
<tr>
<td>-Lower</td>
<td>-0.07</td>
<td>-0.01</td>
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<tr>
<td>Social class (0=highest and middle)</td>
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</tr>
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<td>-Lower middle</td>
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<td>-0.03</td>
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<td>-Lower</td>
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<td>-0.13$^{**}$</td>
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<tr>
<td>Financial dissatisfaction</td>
<td></td>
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<td>-0.20$^{***}$</td>
<td>-0.22</td>
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</tbody>
</table>

**Interaction effects:**

|                                |         |         |         |         |
| Wave of 2000                   | -0.04   | -0.01   | 0.2     | 0.041   |
| 2000 $\ast$ Income            |         |         |         |         |
| -2000$^*$Middle                | -0.19   | -0.02   | 0.32    | 0.04    |
| -2000$^*$Middle low            | -0.67   | -0.07   | 0.09    | 0.01    |
| -2000$^*$Lowest                | -0.63   | -0.08   | 0.14    | 0.018   |
| 2000 $\ast$ Class              |         |         |         |         |
| -2000$^*$Low middle            | -0.67$^*$ | -0.08  | -0.21   | -0.03   |
| -2000$^*$Lower                 | -1.04$^*$ | -0.11  | 0.03    | 0.004   |
| 2000 $\ast$ education          |         |         |         |         |
| -2000$^*$ high                 | 0.24    | 0.018   | 0.07    | 0.01    |
| -2000$^*$Lower                 | -0.37   | -0.04   | -0.49$^*$ | -0.05  |
| 2000$^*$ powerlessness         | 0.04    | 0.047   | 0.12$^*$ | 0.133   |
| 2000$^*$ anomic value          | 0.15    | 0.022   | 0.03    | 0.004   |
| 2000$^*$ interpersonal distrust| 0.1     | 0.037   | 0.24    | 0.092   |
| 2000$^*$ political distrust    | -0.09   | -0.1    | 0.02    | 0.02    |
| 2000$^*$ financial dissatisfaction | -0.37$^{**}$ | -0.48  |         |         |

| Constant                       | 10.9$^{***}$ | .      | 10.9$^{***}$ | .      |
| Adjusted R$^2$                 | 0.36     | 0.47   |            |         |
| N.                             | 1115     | 1115   |            |         |

Note: Dependent variable: life satisfaction on a ten-point scale. The models control for gender, age, age$^2$, health and partnership.

$^*$: <0.1, $^*$: <0.05, $^{**}$: <0.01, $^{***}$: <0.001